"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

N. N. MEL'NIKOV, Ya. A. Mandel'baum and I. L. Vladimirova, Fertilizer and Insectofungicide Institute in Moscow

"Organic Insectofungicides. XII. Synthesis of Mixed Esters of Phosphoric and Thiophosphoric Acids", Zhur Obshchei Khim 23, 429-32 and 433-5 (1953)

All of the compounds listed in the paper are far below the insecticidal action of Parathion, which is just about the US standard at this current time. While it does not seem likely that these compounds are war agents, it actually cannot be said with certainty whether or not they are sufficiently toxic to humans to cause death or disability. The only Soviet chemical work dealing with compounds that have biological action analogous to the US and UK published material on the fluorophosphates (that is, anti-cholinesterase action) is the published research by Mel'nikov and co-workers on the synthesis and insecticidal properties of some esters of various phosphoric acids. As I have said before, the real significance of this type of work lies in the fact that it deals with anti-cholinesterases. Mel'nikov's published research in 1950 appearing in Doklady Akad Nauk SSSR 71, 485-7 is the first acknowledgment in the Soviet press of compounds related to Parathion, that is to say, compounds that are organophosphorous anti-cholinesterases.
Digested translation available.

SO: B67003

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NITSKOV, N.N.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

3

tion of the Willgerodt reaction in the synthesis of substituted phenyl- and naphthylacetic acids. Yu. A. Baskakov and N. N. Mel'nitskov. [illegible] Khim. 23, [illegible]. [illegible] as halogen or alkyl lowers the yield of amides or acids. Numerous prepns. of known acids and amides were run by treatment of 5 g. of the desired ketone, 20 ml. dioxane, and 25 ml. aq. NH_4 polysulfide in the glass liner of a rotating autoclave 4 hrs. at 105–70°; after evapn., the residue was extd. with hot H_2O. The following new products are described: *3-(p-Iodophenyl)acetamide*, m. 191°; *(3,4-dichlorophenyl)acetic acid*, m. 131° (*amide*, m. 168–9°); *(3-chloro-4-methylphenyl)acetic acid*, m. 106° (*amide*, m. 164°); *2-(4-methoxy-2-methylphenyl)acetamide*, m. 154°; *2-(4-methoxy-3-methylphenyl)acetamide*, m. 158°; *4-methoxy-1-naphthylacetic acid*, m. 144° (*amide*, m. 175°); *4-ethyl-1-naphthylacetic acid*, m. 129° (*amide*, m. 167°); *4-propyl-1-naphthylacetic acid*, m. 110° (*amide*, m. 157°); *4-butyl-1-naphthylacetic acid*, m. 110° (*amide*, m. 156°). Yields (%) of amide and acid were obtained from the following acetophenones (substituents on benzene ring given): none, 88 and 5; *p*-Cl, 28 and 7; *p*-Iodo, 12 and 0; *p*-Me, 63 and 0; *o*-HO, 0 and 0; *p*-HO, 0 and 0; *p*-MeO, 25 and 0; 2,5-Br_2, 0 and 0; 2,4-Cl_2, 39 and 5.5; 3,5-Cl_2, 34.7 and 0; 3-methyl-4-bromo, 68 and 0; 3,6-isomer, 74.7 and 0; 3-methyl-4-chloro, 72.4 and 0; 3,6-isomer, 87.8 and 5.2. In the following cases only amides were formed: 4-methyl-2-chloro, 74.8; 5-methyl-methoxy, 69.2; 3,4-isomer, 61.8; 2,4-(MeO)$_2$, 0; 2,4,5-Cl_3, 0; 2,4,5-Me$_3$, 42.1. Me 1-naphthyl ketones (substituents on naphthalene ring given): none 87.8 (acid, m. 132°; amide, m. 183°); 4-Br, 0; 4-Cl, 0; 4-Me, 80.3; 4-MeO, 20; 4-Et, 41; 4-EtO, 0; 4-Pr, 40; and 4-Bu, 34.

G. M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MELNIKOV, N.N.

Use of the Willgerodt reaction in the synthesis of substituted phenyl- and naphthylacetic acids. Yu. A. Baskakov and N. N. Mel'nikov. *J. Gen. Chem. U.S.S.R.* 23, 005-7(1953)(Engl. translation).—See *C.A.* 48, 4477a.
H. L. H.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

GALASHINA, M. L.; VLADIMIROVA, I. L.; MANDEL'BAUM, Ya. A.; NEL'NIKOV, N. N.

Insectifuges

Organic insectifuges. Part 13. Synthesis of mixed esters of phosphoric and thiophosphoric acids containing the simplest substituents in the aliphatic radical. Zhur. ob. khim. 23, No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

USSR/Chemistry - Phosphorus Organic Compounds Aug 53

"Research in the Field of Organic Insecto-fungicides. XIV. Synthesis of Some Mixed Esters of Dithiophosphoric Acid," N. N. Mel'nikov and K. D. Shvetsova-Shilovskaya, Sci Inst of Fertilizers and Insecto-fungicides

Zhur Obshch Khim, Vol 23, No 8, 1352-1357

Studied the reaction between dialkyldithiophosphoric acids and several unsatd compds. The compds react with the above acids to form mixed esters of dithiophosphoric acids with satisfactory yields. 27CT31

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

USSR/Chemistry - Phosphorus Organic Compounds Aug 53

"Research in the Field of Organic Insecto-fungicides. XV. Synthesis of Some Esters of Thiophosphoric Acid Containing Substituents in the Aromatic Radical," N. N. Mel'nikov and D. N. Khokhlov

Zhur Obshch Khim, Vol 23, No 8, pp 1357-1364

Synthesized a series of esters of thiophosphoric acid in order to study their insecticidal properties. Established that ethyldichlorothiophosphate and diethylchlorothiophosphate can yield triarylthiophosphates when treated with chloronitrophenolates.

270727

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

USSR/Chemistry - Phosphorus Organic Compounds Sep 53

"Work in the Field of Organic Fungicides. XVI. Synthesis of Mixed Esters of Thiophosphoric Acid Containing Different Functional Groups in the Aromatic Radical," M.L. Galashina and N.N. Mel'nikov

Zhur Obshch Khim, Vol 23, No 9, pp 1539-1542

A number of dialkylalkoxy phenylthiophosphates, never before described in the literature, as well as diethyl-4-thiocyanophenylthiophosphate were

268T31

synthesized for the purpose of studying insecticidal properties. This study showed that the above compounds are less active than diethyl-4-nitrophenylthiophosphate.

268T31

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MELNIKOV, N.N.

The structure and the physiological activity of substituted phenylacetic and naphthylacetic acids. N. N. Melnikov, R. Kh. Turetskaya, Yu. A. Baskakov, A. N. Boyarkin, and M. S. Kuznetsova. *Doklady Akad. Nauk S.S.S.R.* 89, 953–6(1953).—Introduction of halogen into the ring of $PhCH_2CO_2H$ increases the physiol. activity, which is greatest with Cl; Br is less active; iodine in the *p*-position does not increase activity. Most active are the 2-halo, least active the 4-halo derivs., while the 3-halo derivs. are intermediate. This is the reverse order of activity in comparison with phenoxyacetic acids. Introduction of a 2nd halogen does not change the physiol. activity, while a 3rd halogen can either reduce or increase activity. A Me group in the *p*-position reduces the activity, and 3 Me groups reduce it very much. A smaller decrease in activity is caused by a *p*-MeO group. Halogenation of *m*-$MeC_6H_4OCH_2CO_2H$ causes increased activity, the greatest activity resulting from 4-substitution, and lesser activity from 2-halogenation. With 2,4-D as the standard which gave 100% increase of wheat coleoptile growth at 1 mg./l. concn., and heteroauxin as the standard which gave 100% increase of kidney bean root growth, the following physiol. results were obtained in plant tests; (in above order, with 1, 10, and 100 mg./l. concns. tested for the wheat growth, and 10, 50 and 100 mg./l. concns. for the kidney bean growth). *Substituted phenylacetic acids* (substituents given): *H*, m. 76°, −2%, +45%, —, —, +4%, 0%; *o-Cl*, m. 95°, +70%, +84%, —, +5%, +150%, —; *m-Cl*, m. 74°, +9%, +61%, —, —, +62%, +260%; *p-Cl*, m. 106°, +13%, +71%, —, —, +55%, +91%; *o-Br*, m. 104°, +7%, +71%, —, —, +33%, +104%; *p-Br*, m. 114°, +2%, +80%, —, —, 0%, +8%; *p-I*, m. 135°, −4%, −6%, —, —, 0%, +21%; *2,4-di-Cl*, m. 131°, +10%, +89%, —, —, +58%, +162%; *2,5-di-Cl*, m. 105°, +13%, +50%, —, —, +30%, +120%; *2,3,4-tri-Cl*, m. 136°, +40%, +71%, —, —, +150%, −60%; *2,4,5-tri-Cl analog*, m. 126°, 0%, +56%, —, —, +98%, +100%; *p-MeO*, m. 83°, —, +20%, +20%, —, 0%, 0%; *p-Me*, m. 92°, —, +5%, +6%, —, 0%, 0%; *4,3-ClMe*, m. 83°, +22%, +73%, —, —, +7%, +69%; *4,3-BrMe*, m. 81°, +20%, +71%, —, —, 14%, +60%; *6,3-ClMe*, m. 80°, −2%, +40%, —, —, 0%, −25%; *6,3-BrMe*, m. 82°, −8%, +59%, —, —, +63%, +66%; *2,4,6-ClMe*, m. 100°, +13%, +44%, —, —, +12%, +33%; *3,4-Me(MeO)*, m. 127°, —, +1%, +34%, —, 0%, 0%; *2,4,5-tri-Me*, m. 117°, —, +3%, −6%, —, −21%, −25%; *2,4-Me(MeO)*, m. 107°, —, −12%, +25%, —, 0%, 0%. In substituted naphthylalkylcarboxylic acids it was shown that removal of CO_2H from the ring by more than 1 C atom reduces the physiol. activity and the compds. with an acid group at the 1-position on $C_{10}H_8$ skeleton are the only active ones; substances with 2-substitution are inactive. Substitution of alkyl groups or MeO groups into the $C_{10}H_8$ ring leads to sharp decline in activity. The following results were obtained in biol. tests (same standards as above): Substituted 1-naphthaleneacetic acids (substituents given): *H*, m. 131°, +77%, + 169%, —, —, +92%, —; *4-MeO*, m. 144°, +2%, −12%, —, +10%, +27%, +9%; *4-Me*, m. 148°, +1%, +1%, +4%, +30%, +24%, −10%; *4-Et*, m. 129°, +9%, —, —, +9%, +6%, +27%; *4-Pr*, m. 119°, −5%, −7%, —, +24%, +50%, +32%; *4-Bu*, m. 110°, —, −14%, —, +21%, +20%, +33%. 1-$C_{10}H_7COCH_2CH_2CO_2H$, m. 132°, +9%, +60%, —, —, —, —; 1-$C_{10}H_7(CH_2)_2CO_2H$, m. 160°, +9%, +40%, —, —, —, —; 2-$C_{10}H_7COCH_2CH_2CO_2H$, m. 174°, −25%, −9%, —, —, —, —; 2-$C_{10}H_7(CH_2)_2CO_2H$, m. 109°, −3%, −5%, —, —, —, —. Most of the above acids were prepd. by the Willgerodt reaction others through the nitriles from the corresponding benzyl halides. G. M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Structure and physiological activity of some substituted phenoxyalkylcarboxylic acids on plants. N. N. Mel'nikov, R. Kh. Turetskaya, and K. S. Bokarev (K. A. Timiryazev Inst. Plant Physiol., Moscow). *Doklady Akad. Nauk S.S.S.R.* 90, 921–3(1953).—Tests with a large no. of substituted phenoxyalkylcarboxylic acids showed that an RO group attached to the Ph nucleus slightly raised the growth rate (kidney-bean cutting) and that a MeO gave a variable effect, the meta position giving the highest activity and the 2-position giving the lowest; the same is true for halogen substitution. An Et group in the 2-position of the acid radical raises the activity drastically; allyloxy derivs. are less active than the propoxy derivs., except for 2-allyloxyphenoxyacetic acid, which is quite active. Amides may be more or less active than the free acids; anilides of allyloxyphenoxyacetic acids are more active than the amides. 4-Methoxy-2-chlorophenoxyacetic acid is nearly as active as 3-indolebutyric acid. 4-methoxy-2-bromophenoxyacetamide is also highly active. G. M. Kosolapoff

(2)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

Mel'nikov, N. N., Baskakov, Yu. A., and Bokarov, K. S.: Khimiya gerbitsidov i stimulyatorov rosta rastenii (Chemistry of Herbicides and Stimulators of Plant Growth). Moscow: Goskhimizdat. 1956. 28 pp. Reviewed in *Fiziol. Rastenii* 2, No. 6, 589-90(1955). CH

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.; NABOKOV, V.A.; POKROVSKIY, Ye.A.; ZITSER, A.I., redaktor; YEVDOKIMOVA, Z.N., tekhnicheskiy redaktor.

[DDT; properties and use] DDT; svoistva i primenenie. Moskva, Gos. nauchno-tekhn. izd-vo khimicheskoi lit-ry, 1954. 203 p. (MLRA 8:1)
(DDT (Insecticide))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

Chemistry of herbicides and plant growth stimulators. Moskva, Gos. nauchnotekhn. izd-vo khim. promyshl., 1954. 381 p.

1. Herbicides. 2. Growth promoting substances.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

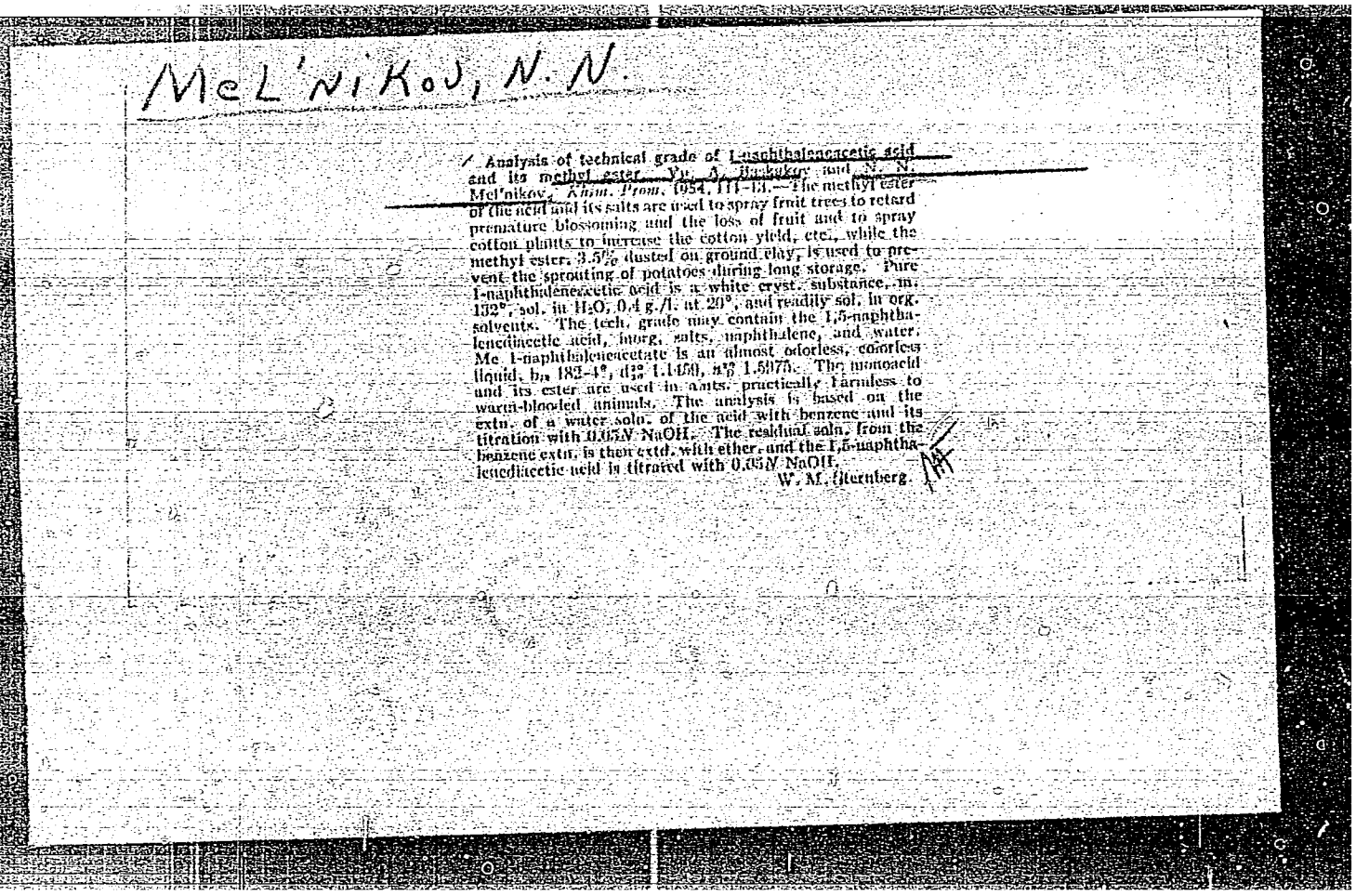
MEL'NIKOV, N.N.

NAMETKIN, Sergei Semenovich, akademik; TOPCHIYEV, A.V., akademik, otvetstvennyy redaktor; MEL'NIKOV, N.N., doktor khimicheskikh nauk, zamestitel' otvetstvennogo redaktora; BRUSOV, I.I., redaktor; POLYAKOVA, T.V., tekhnicheskiy redaktor

[Collected works] Sobranie trudov, Moskva, Izd-vo Akademii nauk SSSR. Vol. 1. 1954. 823 p. (MLRA 8:1)
(Chemistry, Organic)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



MeL'NiKoJ, N. N.

Analysis of technical grade of 1-naphthaleneacetic acid and its methyl ester. Yu. A. Ershekov and N. N. Mel'nikov. *Khim. Prom.* 1954, 111–13.—The methyl ester of the acid and its salts are used to spray fruit trees to retard premature blossoming and the loss of fruit and to spray cotton plants to increase the cotton yield, etc., while the methyl ester, 3.5% dusted on ground clay, is used to prevent the sprouting of potatoes during long storage. Pure 1-naphthaleneacetic acid is a white cryst. substance, m. 132°, sol. in H_2O, 0.4 g./l. at 20°, and readily sol. in org. solvents. The tech. grade may contain the 1,5-naphthalenediacetic acid, inorg. salts, naphthalene, and water. Me 1-naphthaleneacetate is an almost odorless, colorless liquid, b_{10} 183–4°, d_4^{20} 1.1150, n_D^{20} 1.5975. The monoacid and its ester are used in amts. practically harmless to warm-blooded animals. The analysis is based on the extn. of a water soln. of the acid with benzene and its titration with 0.05*N* NaOH. The residual soln. from the benzene extn. is then extd. with ether, and the 1,5-naphthalenediacetic acid is titrated with 0.05*N* NaOH.

W. M. Sternberg.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Mel'nikov, N. N.

Analysis of herbicidal preparations. K. S. Bokarev and N. N. Mel'nikov. *Khim. Prom.* 1954, No. 1, 42–3.—Detn. of 2,4-dichlorophenoxyacetic acid and of its BuOH ester, carried out by titration with NaOH with methyl red as indicator avoids the error caused by the usually present 2,4-dichlorophenol and gives good results. Procedures for detn. of the 2 weed killers were worked out. 2,4-Dichlorophenoxyacetic acid is extd. from a dissolved and acidified sample with Et_2O, the ether is evapd, and the residue is dissolved in neutral alc, and titrated with 0.1 *N* NaOH with methyl red as indicator. To det. free 2,4-dichlorophenoxyacetic acid in its Bu ester, a sample of the ester is dissolved in neutral EtOH, dild. with H_2O, and titrated with NaOH with methyl red as indicator. To det. the ester, a sample is refluxed with alc. KOH. The alc. is evapd., the residue is dissolved in satd. KCl soln., the soln. is extd. with Et_2O, the ether is evapd., and the residue is dissolved in EtOH and titrated with NaOH with methyl red as indicator.

M. Hosch

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MELNIKOV, N.N

3

USSR

2127. Analysis of technical 1-naphthylacetic acid and its methyl ester. Yu. A. [illegible] and N. N. Mel'nikov. (*Khim.-Prom-st'*, 1954, [2], [illegible]; *Referativnyi Zh., Khim.*, 1954, Abstr. No. 43,521).—A sample of technical methyl 1-naphthylacetate is saponified with KOH soln.; the acid is extracted from the acidified saponification mixture with benzene and determined by adding water to the benzene soln. and titrating with 0·05 *N* KOH soln. at 70° to 75° C. 1:5-Naphthalenediacetic acid is then extracted from the acidified saponification mixture with ether; the ether is removed by distillation, the residue is dissolved in 50 per cent. ethanol, and the acid is determined by titration with 0·05 *N* KOH soln. E. HAYES

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

62

Note on the paper by Ivanova "Quantitative determination of Parathion." N. N. Mel'nikov. *Gigiena i Sanit.* 1954, No. 6, 53.—The method suggested by I. (*C.A.* 47, 11040g) is unworkable since this method dets. not $(EtO)_2PS(OC_6H_4NO_2\text{-}p)$ (I) but the impurity represented by *p*-nitrophenol, which in a com. product is usually not over 10–20%. The rate of hydrolysis of I by NaOH at 25° has the const. 0.047, so that hydrolysis at 20° would require several days and not the 20 min. stated by I. It is suggested that the mixt. be refluxed 1 hr., but the method still does not give good results. The best method is based on reduction of I, diazotization of the amine, and coupling this with some suitable coupling agent. G. M. K.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

USSR/Chemistry - Agricultural

FD-868

Card 1/1 Pub.50 - 1/24

Author : Vol'fkovich, S. I., Mel'nikov, N. N., Orlov, V. I.

Title : The chemical industry in the fight to increase yields and preserve crops (Concerning the opening of the All-Union Agricultural Exposition).

Periodical : Khim. prom., No. 6, 321-331 (1-11), Sep 1954

Abstract : Review general trends in USSR agricultural chemistry and current production plans and other developments in fertilizers, insecticides, fungicides, herbicides, and plant growth stimulants. Six references, all USSR, all since 1940. Three figures.

Institution :

Submitted :

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

AID P - 264

Subject	:	USSR/Chemistry
Card	:	1/1
Authors	:	Mel'nikov, N. N. and Baskakov, Yu. A. (Moscow)
Title	:	Chemical agents for weed control and plant growth substances
Periodical	:	Usp. khim. 23, No. 2, 142-198, 1954
Abstract	:	Review of various herbicides and growth promoting substances. The physiological activity of some hydrocarbons, alcohols, phenols, ethers, aldehydes and ketones, organic acids, amines, and heterocyclic compounds is discussed. 685 references (175 Russian): 1850-1953.
Institution	:	None
Submitted	:	No date

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

USSR/Chemistry - Biochemistry

Card 1/1 Pub. 151 - 36/38

Authors : Baskakov, Yu. A., and Mel'nikov, N. N.

Title : Synthesis and physiological activity in plants of isopropyl esters of certain arylcarbamic acids

Periodical : Zhur. ob. khim. 24/2, 376-379, Feb 1954

Abstract : Numerous hitherto unknown isopropyl esters of arylcarbamic acid were synthesized and their physiological activities in young wheat plants were investigated. It was established that the substitution of the hydrogen in the phenyl radical of phenylisopropylcarbamate considerably affects the activity of the compound. Experiments showed that para- and ortho-isomers are much less active than corresponding mta-isomers. The introduction of functional groups into the phenyl radical and its effect on the physiological activity of these compounds in plants are explained. Fifteen references: 6-USA; 8-USSR and 1-English (1916-1953). Tables.

Institution : Academy of Sciences USSR, The K. A. Timiryazev Institute of Plant Physiology

Submitted : September 15, 1953

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

USSR

Synthesis and physiological activity of plants of isoprenyl esters of some aryloxyalkanoic acids. Yu. A. Baskakov and N. N. Mel'nikov. *J. Gen. Chem. U.S.S.R.* 24, 386-9 (1954)(Engl. translation).—See *C.A.* 48, 8465a.

H. L. U. I

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

USSR/ Chemistry Synthesis methods

Card : 1/1 Pub. 151 - 25/35

Authors : Baskakov, Yu. A., and Mel'nikov, N. N.

Title : Synthesis of cyclic hydrazide of maleic acid and some of its derivatives

Periodical : Zhur. ob. khim. 24, Ed. 7, 1216 - 1221, July 1954

Abstract : The method of synthesizing cyclic hydrazide of maleic acid and several of its derivatives, is described. Data are presented on hitherto unknown substituted cyclic hydrazides of maleic acid obtained from the maleic anhydride derivatives. The mechanism of reaction, leading to the formation of 1,2-dihydropyridazinedione-3,6 and its analogues from anhydrides and hydrazine salts, is explained. Nine USA, 2 German and 2 USSR references.

Institution : Acad. of Sc. USSR, The K. A. Timiryazev Institute of Plant Physiology

Submitted : February 4, 1954

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Mel'nikov, N.N.

Synthesis and physiological activity in plants of some 2-aryloxyethanols and aryloxyacetones. K. S. Bokarev and N. N. Mel'nikov (K. A. Timiryazev Inst. Plant Physiol. Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshchei Khim.* 24, 2014–23(1954).—Various aryloxyethanols were prepd. by refluxing ArOH and ClCH$_2$CH$_2$OH in aq. NaOH 2 hrs. followed by extn. with (CH$_2$Cl)$_2$. Thus were prepd. the following *ArOCH$_2$CH$_2$OH* (Ar, % yield, and phys. consts. given): *4-BrC$_6$H$_4$*, 63.6, m. 65°, b$_5$ 147–8°; *3,4-Cl$_2$C$_6$H$_3$*, 53.2, m. 53°, b$_{10}$ 185–90°; *2,4,5-Cl$_3$C$_6$H$_2$*, 80, m. 65°; *2-MeOC$_6$H$_4$*, 62.3, b$_{16}$ 163–4°, d_{20} 1.1561, n_D^{20} 1.5430; *3-isomer*, 79, b$_5$ 143°, d_{20} 1.1631, n_D^{20} 1.5440; *2-EtOC$_6$H$_4$*, 65, m. 38–9°, b$_1$ 128–30°; *3-PrOC$_6$H$_4$*, 83%, b$_2$ 157°, d_{20} 1.0807, n_D^{20} 1.5240; *4-isomer*, 70.5, m. 75°; *3-BuOC$_6$H$_4$*, 84.3, b$_5$ 170–2°, d_{20} 1.0501, n_D^{20} 1.5197; *2,4-Cl(PrO)C$_6$H$_3$*, 61.7, b$_1$ 109–71°, d_{20} 1.1920, n_D^{20} 1.5367; *2,4-Cl(BuO)C$_6$H$_3$*, 64.6, b$_1$ 171–2°, d_{20} 1.1031, n_D^{20} 1.5309; *2,4-Cl(iso-AmO)-C$_6$H$_3$*, 64.8, b$_1$ 191–4°, d_{20} 1.1319, n_D^{20} 1.5241; *2,4-Br(BuO)-C$_6$H$_3$*, 66.7, b$_5$ 200–2°, d_{20} 1.3242, n_D^{20} 1.5433; *4,5,2-Cl$_3$C$_6$H$_2$*, 66.7, m. 94°; *2-EtO analog*, 44.8, m. 77°; *(MeO)C$_6$H$_3$*, 66.7, m. 94°; *2-EtO analog*, 44.8, m. 77°; *2-PrO analog*, 73, m. 55°, b$_{10}$ 177–9°; *2-BuO analog*, 71.2, b$_5$ 191–2°, d_{20} 1.2529, n_D^{20} 1.5490; *2-iso-AmO analog*, 62.8, b$_5$ 149–52°, d_{20} 1.1918, n_D^{20} 1.5330; *4,5,2-Br(MeO)-C$_6$H$_2$*, 71.8, m. 112°; *2-EtO analog*, 57, m. 88°; *2-PrO*

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

K. S. BOKAREV

...ones, m. 181-2°); 3,4-$Cl_2C_6H_3$, 54, m. 54°, b. 138-41° (*semicarbazone*, m. 184-5°); 2,4,5-$Cl_3C_6H_2$, 57.3, m. 116° (*semicarbazone*, m. 202°); Cl_5C_6, 80, m. 105-6.5° (*semicarbazone*, m. 193-4°, decompn.); 2-BrC_6H_4, 50.2, b. 150-5° (*semicarbazone*, m. 150-1°); 2,4-$Cl(PrO)C_6H_3$, 51, m. 60°, b. 170-2° (*semicarbazone*, m. 147°); 4-*BuO analog*, 40, b. 174-5° (*semicarbazone*, m. 163°); 4,5,2-$Cl_2(EtO)C_6H_2$, 73.6, m. 64° (*semicarbazone*, m. 168-9°); 2-*BuO analog*, 62.0, m. 69°, b. 155-8° (*semicarbazone*, m. 172°); 4,5,2-$Br_2(MeO)C_6H_2$, 68.3, m. 110° (*semicarbazone*, m. 173-4°); 4,5,2-$Br_2(BuO)C_6H_2$, 55.6, m. 72° (*semicarbazone*, m. 176°); 2-*PrO analog*, 94.5, m. 71° (*semicarbazone*, m. 166.5°); 2-*BuO analog*, 81.7, m. 61° (*semicarbazone*, m. 172-3°); 2-*iso-AmO analog*, 73.6, b. 198-200° (*semicarbazone*, m. 171.5°). 2-$C_{10}H_7SCH_2Ac$, 79.6%, m. 135° (*semicarbazone*, m. 196°) [cf. Stoermer, *Ann.* 312, 237(1900)]. 4-$BrC_6H_4OCH_2Ac$ *semicarbazone* m. 197°; 2,4,6-*tri-Br analog*, m. 196.5°. (2-*Benzothiazolylthio*)*acetone semicarbazone* m. 182-3°. G. M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

K. S. BAKAREV

...ene, m. 181–2°); *2,4-Cl₂C₆H₃*, 54, m. 54°, b_4 138–41° (*semicarbazone*, m. 184–5°); *2,4,5-Cl₃C₆H₂*, 67.3, m. 116° (*semicarbazone*, m. 202°); *Cl₅C₆*, 80, m. 105–5.5° (*semicarbazone*, m. 193–4°, decompn.); *2-BrC₆H₄*, 50.2, b_{15} 150–5° (*semicarbazone*, m. 150–1°); *2,4-Cl(PrO)C₆H₃*, 51, m. 80°, b_2 ...1)–2° (*semicarbazone*, m. 147°); *4-BuO analog*, 49, b_2 174–5° (*semicarbazone*, m. 163°); *4,5,2-Cl₂(EtO)C₆H₂*, 73.6, m. 54° (*semicarbazone*, m. 168–9°); *2-EtO analog*, 69.0, m. 69°, b_1 155–8° (*semicarbazone*, m. 172°); *4,5,2-Br₂(MeO)C₆H₂*, 68.3, m. 110° (*semicarbazone*, m. 173–4°); *4,5,2-Br₂(EtO)C₆H₂*, 65.6, m. 72° (*semicarbazone*, m. 178°); *2-PrO analog*, 94.5, m. 71° (*semicarbazone*, m. 166.5°); *2-BuO analog*, 81.7, m. 61° (*semicarbazone*, m. 172–3°); *2-iso-AmO analog*, 73.6, b_6 198–200° (*semicarbazone*, m. 171.5°). *2-C₁₀H₇SCH₂Ac*, 79.6%, m. 135° (*semicarbazone*, m. 196°) [cf. Stoermer, *Ann.* 312, 237(1900)]. *4-BrC₆H₄OCH₂Ac semicarbazone* m. 197°; *2,4,6-tri-Br analog*, m. 196.5°. *(2-Benzothiazolylthio)acetone semicarbazone* m. 182–3°.

G. M. Kosolapoff

3/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

Application of products of organic synthetic industry in agriculture. N. N. Mel'nikov. *Zhur. Prikład. Khim.* 27, 577-93(1954).—A review with 261 references covering the agricultural uses of hydrocarbons, halogen derivs., nitro compds., alcs., phenols, carbonyl compds., org. acids and their derivs., compds. of S, P, Hg, and As, and pyrethrins. G. M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MELNIKOV, N.N.

6

Structure and insecticidal activity of some mixed esters of dithiophosphoric acid. K. A. Gar, N. N. Mel'nikov, Yu. N. Fedeev, and K. D. Shvetsova-Shilovskaya. *Doklady Akad. Nauk S.S.S.R.* 94, 241–4(1954); cf. *Zhur. Obshchei Khim.* 23, 1352(1953).—Insecticidal tests against *Calandra oryzae* with the following dithiophosphates indicated that mixed aliphatic aromatic esters are relatively weakly active and the activity drops with increase of the aliphatic radicals of the ester; hydroxyalkyl, acetoxyalkyl, and aldehydoalkyl esters have very low activity. The activity of trialkyl dithiophosphates rises significantly when a H atom of the alkyl group is replaced by a group like CN or CO_2R. The following esters are reported (b., d_{20}, $n^{20}D$, concn. in % giving 50% mortality after 3 days exposure to aq. emulsion): $(MeO)_2PS_2CH_2CH_2Ph$, $b_{0.05}$ 128–32°, 1.2108, 1.5705, 0.1; *di-Et ester*, $b_{0.15}$ 135–7°, 1.1444, 1.5408, 0.118; *di-Pr ester*, $b_{0.1}$ 129–31°, 1.01990, 1.5381, >1; *di-iso-Pr ester*, $b_{0.1}$ 121–4°, 1.0966, 1.5365, >1; *di-Bu ester*, $b_{0.05}$ 137–40°, 1.0890, 1.5320, nontoxic; *di-iso-Bu ester*, $b_{0.05}$ 117–22°, 1.0860, 1.5301, nontoxic; $(BuO)_2PS_2CH_2CH_2OH$, $b_{0.05}$ 90–5°, 1.0491, 1.4835, over 0.5; $(MeO)_2PS_2CH_2CH_2OAc$, b_2 100–2°, 1.1558, 1.5255, 4.7; *di-Et ester*, $b_{0.1}$ 115–17°, 1.1517, 1.4948, 1.68; *di-Pr ester*, $b_{0.05}$ 80–1°, 1.0934, 1.5075, nontoxic; *di-iso-Pr ester*, $b_{0.1}$ 72–4°, 1.0846, 1.4335, nontoxic; *di-Bu ester*, $b_{0.1}$ 100°, 1.0915, 1.4858, nontoxic; *di-iso-Bu ester*, $b_{0.05}$ 104°, 1.0986, 1.4915, nontoxic; $(iso\text{-}PrO)_2PS_2CH_2CH_2CHO$, $b_{0.15}$ 74°, 1.1348, 1.5095, nontoxic; *di-Bu ester*, $b_{0.05}$ 75–7°, 1.0756, 1.4955, nontoxic; $(EtO)_2PS_2CH_2CH_2CN$, $b_{0.5}$ 134–42°, 1.1704, 1.5195, 0.03; *di-Pr ester*, $b_{0.05}$ 116–20°, 1.0505, 1.5068, 0.25; *di-iso-Pr ester*, $b_{0.05}$ 93–9°, 1.0182, 1.5020, over 0.25; *di-Bu ester*, $b_{0.05}$ 121–3°, 1.0816, 1.5050, 0.36; *di-iso-Bu ester*, $b_{0.05}$ 122–3°, 1.0980, 1.5010, over 0.36; $(MeO)_2PS_2CH_2CH_2CO_2Me$, b_1 145°, 1.2625, 1.5160, over 0.3; *di-Et analog*, $b_{1.5}$ 167°, 1.1911, 1.5050, 0.084; *di-iso-Pr analog*, $b_{0.05}$ 92–7°, 1.1420, 1.4918, over 0.5; *di-iso-Bu analog*, $b_{0.1}$ 124–9°, 1.1162, 1.4915, 0.5; $(MeO)_2PS_2CH_2CHMeCO_2Me$, b_2 133–5°, 1.2330, 1.5100, 0.15; *di-Et analog*, b_1 154.5°, 1.1577, 1.4995, over 0.15; *di-iso-Pr analog*, $b_{0.05}$ 84–5°, 1.1293, 1.4035, nontoxic; *di-Bu ester*, $b_{0.025}$ 110°, 1.1132, 1.4918, nontoxic; *di-iso-Bu analog*, $b_{0.01}$ 115–18°, 1.1138, 1.4915, nontoxic; $(EtO)_2PS_2CH(CH_2Ph)CO_2Et$, $b_{0.07}$ 134°, 1.1309, 1.5341, nontoxic; $(MeO)_2PS_2CH(CO_2Me)CH_2CO_2Me$, $b_{0.3}$ 134.5°, 1.2864, 1.5070, 0.007–0.013; $(MeO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, $b_{0.1}$ 160–70°, 1.2076, 1.4960, 0.0033; $(MeO)_2PS_2CH(CO_2CHMe_2)CH_2CO_2CHMe_2$, $b_{0.05}$ 123°, 1.1824, 1.4810, 0.003; $(MeO)_2PS_2CH(CO_2CH_2CHMe_2)CH_2CO_2CH_2CHMe_2$, $b_{0.01}$ 127–8°, 1.1483, 1.4835, nontoxic; $(EtO)_2PS_2CH(CO_2Me)CH_2CO_2Me$, $b_{0.05}$ 110–20°, 1.2237, 1.4979, 0.0016–0.0021; $(EtO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, b_1 157–62°, 1.1742, 1.4910, 0.021; $(EtO)_2PS_2CH(CO_2CHMe_2)CH_2CO_2CHMe_2$, $b_{0.05}$ 117–21°, 1.1495, 1.4815, 0.0034; $(EtO)_2PS_2CH(CO_2CH_2CHMe_2)CH_2CO_2CH_2CHMe_2$, $b_{0.05}$ 124–8°, 1.1068, 1.4775, nontoxic; $(PrO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, $b_{0.1}$ 145°, 1.1700, 1.4890, 0.069; $(PrO)_2PS_2CH(CO_2CHMe_2)CH_2CO_2CHMe_2$, $b_{0.05}$ 125–8°, 1.1146, 1.4785, nontoxic; $(PrO)_2PS_2CH(CO_2Bu)CH_2CO_2Bu$, $b_{0.01}$ 143–5°, 1.0947, 1.4822, about 0.5; $(iso\text{-}PrO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, b_1 151°, 1.0702, 1.5140, 0.25; $(BuO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, $b_{0.05}$ 125–8°, 1.1078, 1.4861, >0.5; $(iso\text{-}BuO)_2PS_2CH(CO_2Et)CH_2CO_2Et$, $b_{0.07}$ 117–30°, 1.0042, 1.4855, >0.5.

G. M. Kosolapoff

Translation T 139 R, 16 June 54

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

Use of labelled atoms for studying the stability of insecticide dusts containing organic thiophosphates. K. A. Gar, N. N. Mel'nikov, Ya. A. Mandel'baum, V. I. Chernitsova, and [illegible] Shilovskaya. (*Doklady Akad. Nauk SSSR*, 1954, 94, 729–732).—The rate of loss of P from 1% dusts of diethyl *p*-nitrophenylthiophosphate containing ^{32}P and/or ^{35}S is greater, at the same temp., than that from ethyl *pp'*-dinitrodiphenylthiophosphate, and for both compounds increases with temp. (measurements at 15, 22, and 45°); it is also greater in the light than the dark. The decrease in toxicity runs parallel to the loss of P. The major part of the toxicity of these preparations will have vanished after 4 days' exposure on crops under normal conditions.

R. C. MURRAY.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Mel'nikov, N. N.

An application of the method of labeled atoms in the study of resistance of Eurygaster integriceps to two organophosphorus insecticides and experimental study of their penetration into the plants. K. A. Gar, Ya. A. Mandel'baum, N. N. Mel'nikov, L. D. Slavetsova-Shilovskaya, and V. I. Chernetsov. *Doklady Akad. Nauk S.S.S.R.* 94, 1189–92(1954). —P³²-labeled specimens of $(EtO)_2PS(OC_6H_4NO_2\text{-}p)$ and EtOPS$(OC_6H_4NO_2\text{-}p)_2$ were used in 1% dusts which were applied to male and female specimens of the insects. Females were generally more resistant to both insecticides than the males. A direct relation was found between the amt. of P which penetrates the insect body and the degree of poisoning within each expt'l group. Death occurs with lower level of the di-Et deriv. than mono-Et deriv., but this is caused not by a more difference of diffusion, since in dead specimens the difference in permeability disappears between females and males. Chrysanthemum plants were allowed to absorb through the roots aq. emulsions of the di-Et deriv. (0.05–0.2%) and the penetration to the leaves was studied radiometrically. A spraying with even 0.2% emulsion failed to give complete control of *Aulacorthum pelargonii*, although the amt. of the insecticide which penetrated the plant mass reached 0.003% of the green mass at room temp. This corresponds to 20–30 mg./kg. At lower temp. when this value reached 60 mg./kg. a considerable degree of control was attained and the insects contained up to 22 mg./kg. of the di-Et deriv. The penetration into chrysanthemum was substantially like that found in beets. However, on cabbage cultures no control was achieved by this method against *Brevicoryne brassicae*, although withering of leaves was observed at 0.05% concn. of the emulsion, or higher. In cabbage and chrysanthemum expts. considerable hydrolysis of the insecticide took place and after 30 days only the hydrolysis products remained; this process is accelerated by sunlight. Dusting with 1% dust on shaded kidney beans showed 42% hydrolysis after 10 days; in sunlight almost all was hydrolyzed in 4 days. On wheat the process takes but 3 days. Thus parathion is not truly a systemic insecticide, owing to its poor penetration and stability in the plant.

G. M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

USSR/Chemistry

Card : 1/1

Authors : Mandel'baum, Ya. A., Lomskina, V. I. and Mel'nikov, N. N.

Title : Synthesis of dimethyl-4-nitrophenylthiophosphate and trimethylthiophosphate marked with radioactive phosphorus (P^{32}).

Periodical : Dokl. AN SSSR, 96, Ed. 6, 1173 - 1174, June 1954

Abstract : In connection with the investigation of new phosphor-containing insecticides the authors synthesized dimethyl-4-nitrophenylthiophosphate and trimethylthiophosphate marked with radioactive phosphorus. The synthesis of above compounds was realized on the basis of the following reactions: $PSCl_3 + 2CH_3OH + 2NaOH \rightarrow (CH_3O)_2 PSCl + 2NaCl + 2H_2O$; $(CH_3O)_2 PSCl + HOC_6H_4NO_2 + Na_2CO_3 \rightarrow (CH_3O)_2 PSOC_6H_4NO_2 + 2NaHCO_3 + NaCl$. Two references.

Institution : Scientific Institute for Development of Fertilizers and Insecticides

Presented by : Academician S. I. Vol'fkovich, March 17, 1954

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

USSR/Chemistry

Card 1/1

Authors : Bokarev, K. S., and Mel'nikov, N. N.

Title : Synthesis of 4-iodophenoxyacetic acid, marked J^{131}

Periodical : Dokl. AN SSSR, 97, Ed. 2, 255 - 256, July 1954

Abstract : The method for the derivation of 4-iodophenoxyacetic acid marked with radioactive J^{131} is presented. The selection of a special method for the derivation of the compound should take into consideration the comparatively small period of semi-decomposition of the radioactive iodine. The introduction of the radioactive iodine takes place in the last phase of the process and consumes only several hours. Three references.

Institution : Acad. of Sc. USSR, The K. A. Timiryazev Institute of Plant Physiology

Presented by : Academician S. I. Volfkovich, March 22, 1954

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

USSR/Chemistry

Card : 1/1

Authors : Baskakov, Yu. A. and Mel'nikov, N. N.

Title : Synthesis of alpha-naphthylacetic acid and its methyl ether, marked C^{14} in the carboxyl group

Periodical : Dokl. AN SSSR, 97, Ed. 3, 453 - 454, July 21, 1954

Abstract : The derivation of methyl ether of alpha-naphthylacetic acid, and marked C^{14} in carboxyl, through the esterification of the acid with methyl alcohol, in the presence of sulfuric acid, is described. Formulas for the synthesis of such compounds, are given. Methyl ether of alpha-naphthylacetic acid is a plant growth stimulus and its various applications are outlined. Six USSR references.

Institution : Acad. of Sc. USSR., The K. A. Timiryazev Institute of Plant Physiology

Presented by : Academician, S. I. Vol'fkovich, March 22, 1954

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Mel'nikov, N. N.

Preparation of dialkyl chlorothiophosphates. N. N. Mel'nikov and Ya. A. Mandel'baum (Sarcolov Sci. Research Inst. Fertilizers and Insectofungicides, Moscow). *Khim. i Primenenie Fosfororgan. Soedinenii, Akad. Nauk S.S.S.R., Trudy 1-oi Konferentsii.*, 1955, 185–93(Pub. 1957).—Prepn. of $(EtO)_2PSCl$ from $PSCl_3$ and EtOH gives 50–5% yields if the reaction is run in the presence of an org. base, best in $(CH_2Cl)_2$. Use of C_6H_6 as the solvent lowers the yield, while CCl_4 introduces unstated impurities, besides yielding up to 30% $EtOPSCl_2$. Presence of H_2O or excess EtOH lowers the yield owing to formation of the pyro ester. Et_3N or $PhNMe_2$ as the acid removing agents are unsatisfactory owing to formation of much $EtOPSCl_2$. Pyridine or pyridine bases are most satisfactory. In a typical run 255 g. $PSCl_3$ in 0.6 vols. $(CH_2Cl)_2$ was treated at −5° with 2.17 moles dry EtOH in 2.44 moles pyridine; after 1–2 hrs. stirring at 10–20°, the mixt. was filtered and the filtrate washed with H_2O, dried, and distd. yielding 50–5% $(EtO)_2PSCl$ and 7–10% $EtOPSCl_2$. With crude picoline bases the reaction can be run without a solvent yielding 43–6% desired chloride. Deficiency of the org. base results in evolution of much EtCl. Yields of 60–5% are attained also by adding 1 mole dry EtOH to 1 mole $PSCl_3$ (temp. rise to 30–40°), followed by addn. of 0.6 mole EtOH (temp. rise to 45–7°) with percolation of the mixt. with N 3 hrs. at this temp.; when the mixt. is cooled under 15° and treated slowly with NaOH in abs. EtOH (0.1 g. NaOH in 55 ml. EtOH per 0.1 mole $PSCl_3$), kept 1 hr. at 20°, dild. with H_2O, dried, and distd., there is formed 60–5.5% $(EtO)_2PSCl$. Solid NaOH or its aq. soln. can be used also. The product contains 3.6% $EtOPSCl_2$. A yield of 80% is attainable as follows: to Mg shavings is added 0.05 g. iodine and a little CCl_4 after which enough abs. EtOH (not over 0.3% moisture) is added to

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N., MAKEL'BAUM, YA. A.

cover the Mg and the reaction is allowed to commence; the addn. of EtOH is continued, keeping the mixt. boiling until all the Mg is dissolved (4.5–5 moles/g.-atom Mg is needed, since the Mg ethoxide contg. 2 moles EtOH of crystn. gives the best results). A suspension of 1.1 mole $(EtO)_2Mg$ in abs. EtOH is then added to 1 mole $PSCl_3$ below 35° over 50 min.; after stirring 1–2 hrs. at 45–50°, the mixt. is cooled and dild. with H_2O [any ppt. of $Mg(OH)_2$ is dissolved in HCl], the sepd. oil being sepd., dried, and distd. The product contains in crude state 2–4% $EtOPSCl_2$ and up to 5% $(EtO)_2PS$. If $PSCl_3$ contains over 2–3% PCl_3, the yield is severely reduced. A simpler procedure: to 340 g. $PSCl_3$ was added in 15–20 min. 150 ml. abs. EtOH (temp. rise to 35–40°) after which dry N is percolated through the mixt. at 45–7° 3–3.5 hrs. until HCl evolution stops, then the percolation is continued 40 min. to remove residual HCl at 10–15°; the residue is treated over 40 min. with $(EtO)_2Mg$ prepd. from 31 g. Mg and 650 ml. abs. EtOH; the addn. is made at 30–5°, after which the mixt. is stirred 60–80 min. at 50°, cooled and quenched in H_2O; the yield of pure $(EtO)_2PSCl$ is 72%, with 5% $EtOPSCl_2$ and 1.5% $(EtO)_2PS$ also being formed. Use of $(EtO)_3Al$ in this reaction gives but 40–5% yields and leads to some loss of S by the P component. For prepn. of $(MeO)_2PSCl$ the aq. NaOH method (above) is best. The calcd. amt. of MeOH is added to $PSCl_3$ at −8°, followed by NaOH (in aq. soln., in MeOH, or as solid powder) below 0°; 10% excess NaOH is recommended. After keeping at 20° until the reaction is complete (tested by siphoning a sample and isolating the product), the mixt. is dild. with H_2O and worked up as above. Yields are 70–89%; a soln. of NaOH in 60% aq. MeOH can be used. It is stated that (MeO)(EtO)PSCl can be made similarly in 85–91% yield.

G-M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

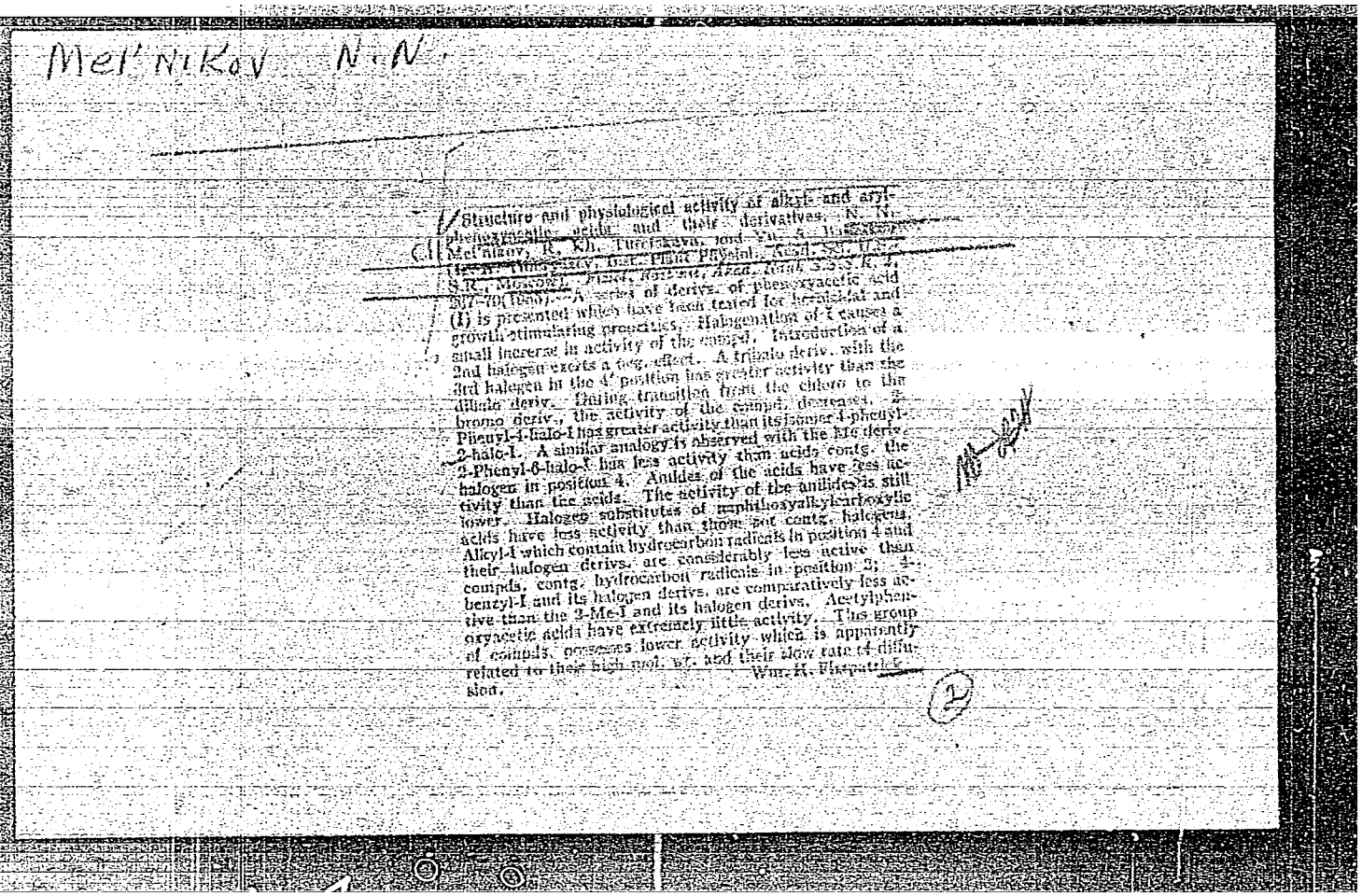
MEL'NIKOV, N.N.

MEL'NIKOV, N.N.

Utilizing organosynthetic industrial products in agriculture.
Soob.o nauch.rab.chl.VKHO no.2:17-32 '55. (MIRA 10:10)
(Agricultural chemicals)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



Mel'NikoV N.N.

Structure and physiological activity of alkyl- and aryl-phenoxyacetic acids and their derivatives. N. N. Mel'nikov, R. Kh. Turcheninova, and Yu. S. Nosova. U. S. S. R. Univ., Inst. Plant Physiol., Acad. Sci. U. S. S. R., Moscow). Plant, Soil and Fert. Abstr. 3:3:2, 207–70(1950).—A series of derivs. of phenoxyacetic acid (I) is presented which have been tested for herbicidal and growth-stimulating properties. Halogenation of I causes a small increase in activity of the compd. Introduction of a 2nd halogen exerts a neg. effect. A triiodo deriv. with the 3rd halogen in the 4' position has greater activity than the diiodo deriv. During transition from the chloro to the bromo deriv., the activity of the compd. decreases. 2-Phenyl-4-halo-I has greater activity than its isomer 4-phenyl-2-halo-I. A similar analogy is observed with the Br derivs. 2-Phenyl-6-halo-I has less activity than acids contg. the halogen in position 4. Anilides of the acids have less activity than the acids. The activity of the anilides is still lower. Halogen substitutes of naphthoxyalkylcarboxylic acids have less activity than those not contg. halogens. Alkyl-I which contain hydrocarbon radicals in position 4 and their halogen derivs. are considerably less active than compds. contg. hydrocarbon radicals in position 2; 4-benzyl-I and its halogen derivs. are comparatively less active than the 2-Me-I and its halogen derivs. Acetylphenoxyacetic acids have extremely little activity. This group of compds. possesses lower activity which is apparently related to their high mol. wt. and their slow rate of diffusion. Wm. H. Fleming

(2)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

USSR/Chemistry - Insecticides FD-2652

Card 1/1 Pub. 50-17/18

Authors : Mel'nikov, N. N., Shvetsova-Shilovskaya, K. D.

Title : The synthesis of insecticides of the pyrethrin series ("Foreign development")

Periodical : Khim. prom. No 3, 178-189, Apr-May 1955

Abstract : Reviews synthetic procedures for the preparation of pyrethrins and related compounds from the standpoint of the application of these procedures in the industrial production of insecticides of this type. Seventy three references, all non-USSR

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL, N I K O V, N N

FD-3375

USSR/Chemistry - Defoliants

Card 1/1 Pub. 50 - 19/20

Authors : Baskakov, Yu. A., Mel'nikov, N. N.

Title : Chemical agents for the defoliation and dessication of plants (Foreign developments)

Periodical : Khim. prom. No 7, 435-443, Oct-Nov 1955

Abstract : Review on the basis of foreign publications the subject of defoliants and plant dessicants. Three USSR references, all since 1940; 107 foreign references.

Institution : --

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

AID P - 3172

Subject : USSR/Chemistry

Card 1/1 Pub. 119 - 7/8

Authors : Vol'fkovich, S. I. and V. K. Kuskov

Title : N. N. Mel'nikov, Yu. A. Baskakov, Khimiya gerbitsidov i stimulyatorov rosta rasteniy (Chemistry of herbicides and growth-promoting substances for plants) Moscow, 1954. (Book Review)

Periodical : Usp. khim., 24, 5, 635-636, 1955

Abstract : Critical review.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEI'NIKOV N.N.

Organic insecticides. XVII. Synthesis of amides and hydrazides of dialkoxythiophosphoric acids. N. N. Mel'nikov and A. G. Zen'kevich. *Zhur. Obshchei Khim.* 25, 793–5(1955) (Engl. translation): *J. Gen. Chem. U.S.S.R.* 25, 793–5(1955) (Engl. translation); *C.A.* 49, 985g, 10649c.—While compds. $(RO)_2PSNH_2$ show systemic insecticidal activity, this lies below that of octamethylpyrophosphoramide. Similar and weak activity was found in $(MeO)_2PSNMe_2$ and $(MeO)_2PSNEt_2$. Weak contact insecticidal activity is characteristic of the various amides shown below. The compounds were prepd. from $(RO)_2PSCl$ which, in unstated solvent, were treated with the desired amine, NH_3, or N_2H_4. The amine HCl salt was filtered and the soln. distd. *in vacuo*; better removal of amine HCl salt was obtained in some cases by washing the soln. with H_2O after filtration. Thus were prepd. the following (b.p., d_{20}, n_D^{20} shown, resp.): $(MeO)_2PSNH_2$, b_{10} 105–8°, 1.2640, 1.4982; $(EtO)_2PSNH_2$, b_4 113–15°, 1.1456, 1.4828; $(PrO)_2PSNH_2$, b_{2-3} 82°, 1.0833, 1.4798; $(iso\text{-}PrO)_2PSNH_2$, b_{2-3} 82°, 1.0563, 1.4670; $(BuO)_2PSNH_2$, b_{3-4} 93–8°, 1.0107–1.4715; $(MeO)_2PSNMe_2$, b_4 77–8°, 1.1712, 1.4766; $(EtO)_2PSNMe_2$, b_{10} 97–100°, 1.0622, 1.4635; $(PrO)_2PSNMe_2$, b_{2-3} 79–82°, 1.0222, 1.4540; $(iso\text{-}PrO)_2PSNMe_2$, b_{2-3} 71°, 1.0070, 1.4585; $(BuO)_2PSNMe_2$, b_6 132°, 0.9958, 1.4622; $(MeO)_2PSNEt_2$, b_6 88–91°, 1.0065, 1.4780; $(PrO)_2PSNEt_2$, b_{2-3} 81–2°, 1.0029, 1.4628; $(iso\text{-}PrO)_2PSNEt_2$, b_{2-3} 100°, 1.0210, 1.4626; $(BuO)_2PSNEt_2$, b_{2-3} 91–3°, 0.9793, 1.4610; $(MeO)_2PSNEtPh$, $b_{0.05}$ 87–93°, 1.1904, 1.5565; $(EtO)_2PSNEtPh$, $b_{0.07}$ 99–107°, 1.1378, 1.5499; $(PrO)_2PSNEtPh$, $b_{0.05}$ 104–5°, 1.0904, 1.5272; $(iso\text{-}PrO)_2PSNEtPh$, m. 81°; $(BuO)_2PSNEtPh$, $b_{0.05}$ 115°, 1.0697, 1.5245; $(MeO)_2PSN(CH_2CH_2OH)_2$, $b_{0.05}$ 136°, 1.2470, 1.5090; $(EtO)_2PSN(CH_2CH_2OH)_2$, $b_{0.05}$ 143–6°, 1.1742, 1.4945; $(PrO)_2PSN(CH_2CH_2OH)_2$, $b_{0.05}$ 149–51°, 1.1313, 1.4900; $(iso\text{-}PrO)_2PSN(CH_2CH_2OH)_2$, $b_{0.05}$ 153–10°, 1.1292, 1.4820; $(BuO)_2PSN(CH_2CH_2OH)_2$, $b_{0.05}$ 160–6°, 1.1°, 5, 1.4350; $(MeO)_2PSNHNH_2$, m. 103–0°; $(EtO)_2PSNHNH_2$, m. 81–6°; $(PrO)_2PSNHNH_2$, $b_{0.05}$ 76–80°, 1.1031, 1.4890; $(iso\text{-}PrO)_2PSNHNH_2$, m. 123–0°; $(BuO)_2PSNHNH_2$, $b_{0.05}$ 110–15°, 1.0692–1.5410; $(MeO)_2PSNHNHPh$, m. 85–5°; $(EtO)_2PSNHNHPh$, m. 62–5°; $(PrO)_2PSNHNHPh$, m. 57–63°; $(iso\text{-}PrO)_2PSNHNHPh$, m. 43–5°; $(BuO)_2PSNHNHPh$, m. 19–21°.

G. M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.; ZEN'KEVICH, A.G.

Organic insecticide-fungicides. Part 17. Synthesis of amides and hydrazides of dialkoxythiophosphoric acids. Zhur.ob.khim. 25 no.4: 828-831 Ap '55. (MLRA 8:7)

1. Nauchnyy institut po udobreniyam i insektofungitsidam.
(Insecticides) (Fungicides) (Phosphorus organic compounds)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

USSR/Organic Chemistry - Naturally Occurring Substances and Their Synthetic Analogs, E-4

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61617

Author: Bokarev, K. S., Mel'nikov, N. N.

Institution: None

Title: Synthesis of Some New Glucose Esters

Original Periodical: Zh. obshch. khimii, 1955, 25, No 12, 2242-2245

Abstract: For the purpose of a study of the mechanism of the action of derivatives of phenoxyacetic acid upon plants there have been synthesized 2,3,4,6-tetraacetyl-1-(2',4'-dichlorophenoxyacetyl)- (I) and 2,3,4,6-tetraacetyl-1-(2',4',5'-trichlorophenoxyacetyl)- glucose (II). On disacetylation of I and II with a solution of NH_3 in CH_3OH there are formed quantitatively the corresponding chlorophenoxyacetamides. Formation of similar glucose esters in plants is improbable. By boiling of a mixture of 30 g Ag-salt of 2,4-dichlorophenoxyacetic acid, 41.1 g acetobromoglucose and 150 ml

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

USSR/Organic Chemistry - Naturally Occurring Substances and Their Synthetic Analogs, E-3

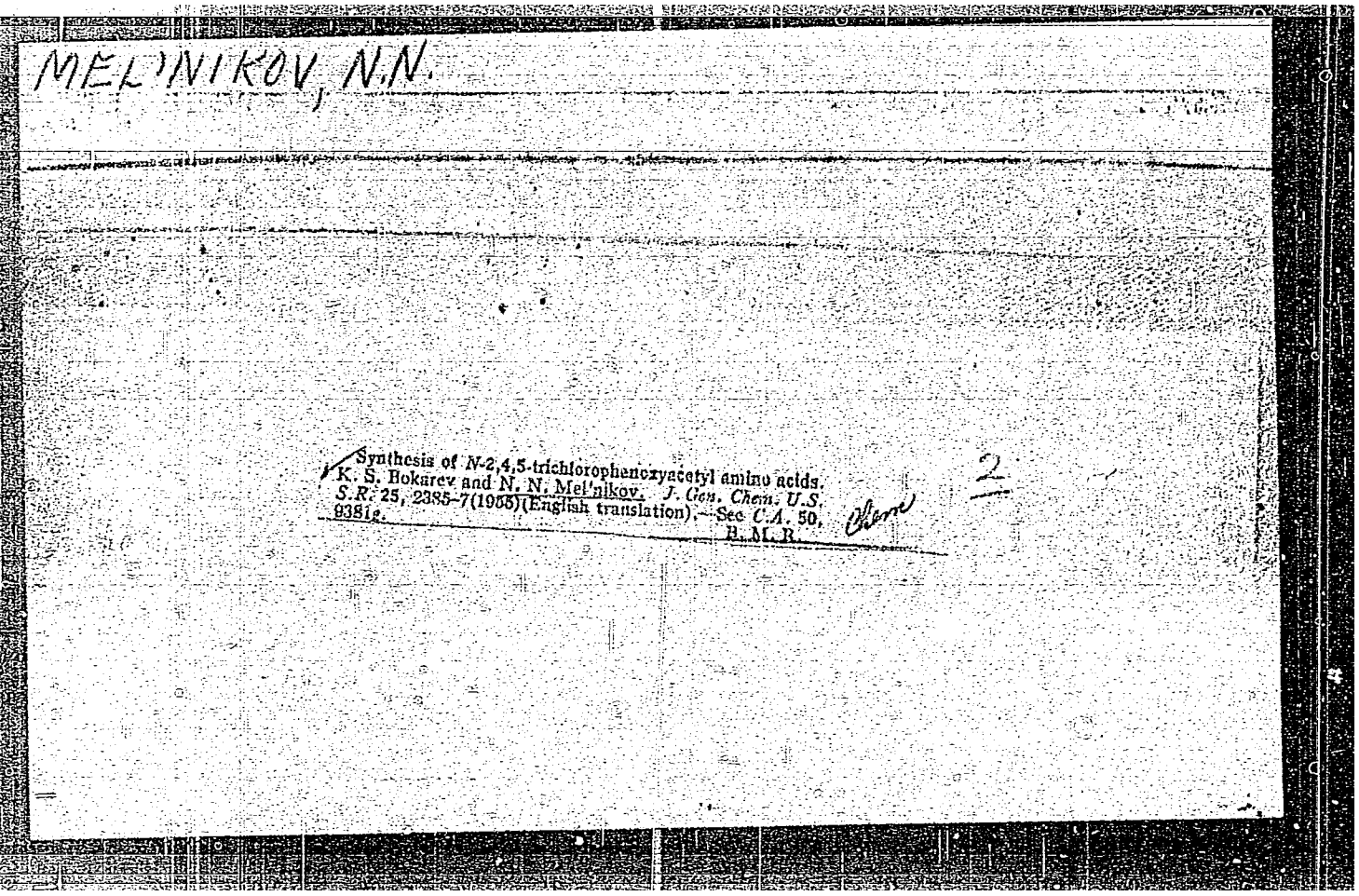
Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61617

Abstract: C_6H_6 (10 hours) I has been obtained with almost a quantitative yield, MP 125-126° (from CH_3OH), $[\alpha]^{20}D$ +7.4° (dioxane). Analogously has been prepared II, yield 78.3%, MP 170-171° (from CH_3OH), $[\alpha]^{20}D$ + 8.3° (dioxane). I and II have β-configuration since they are saponified by emulsion.

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



MEL'NIKOV, N.N.

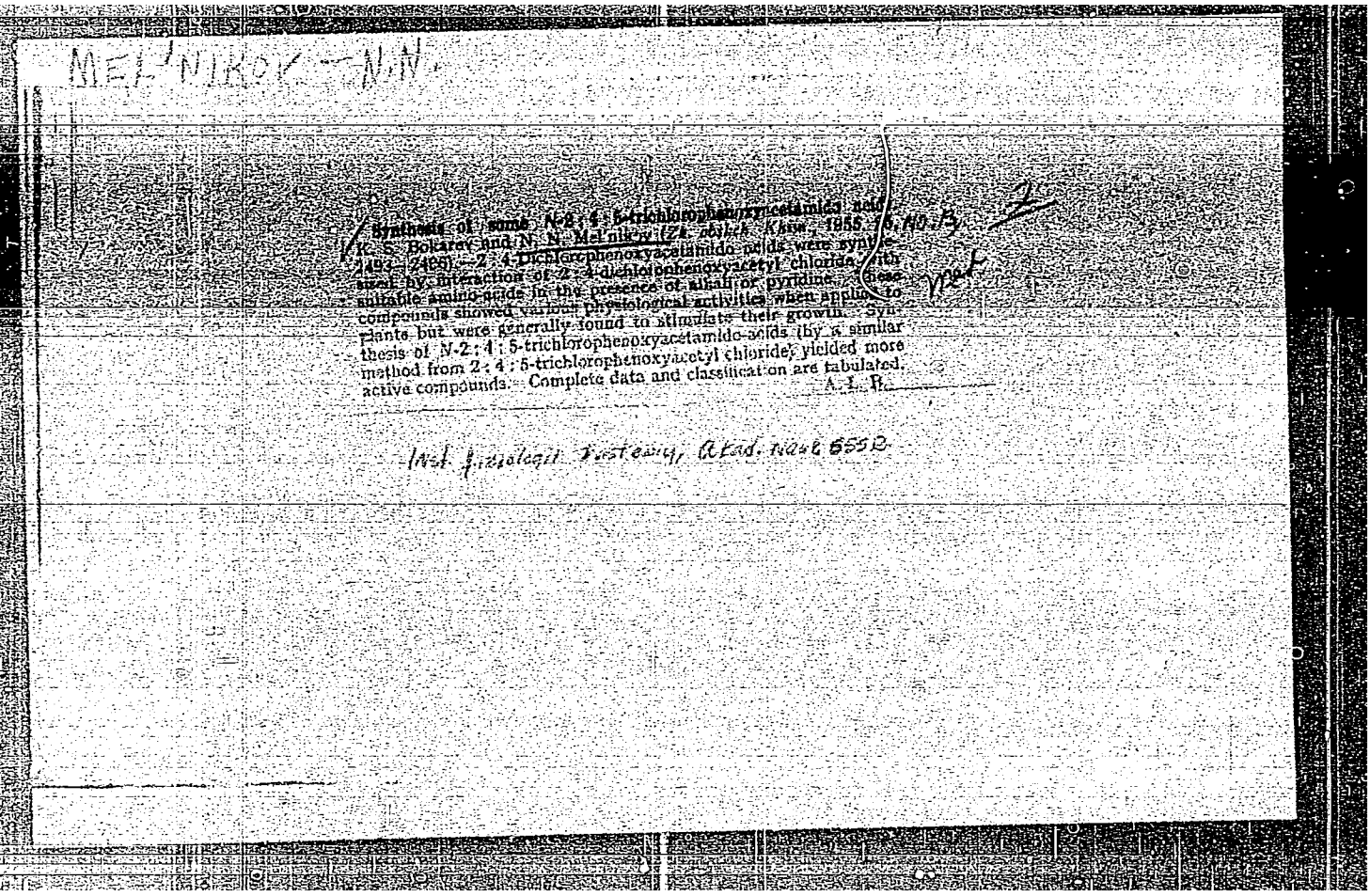
Synthesis of N-2,4,5-trichlorophenoxyacetyl amino acids. K. S. Bokarev and N. N. Mel'nikov. *J. Gen. Chem. U.S.S.R.* 25, 2385-7(1955)(English translation).—See *C.A.* 50, 9381g.

2

R. M. R.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



MEL'NIKOV, N.N.

Synthesis of some N-2;4;5-trichlorophenoxyacetamido acids. K. S. Bolareva and N. N. Mel'nikov (Zh. obshch. Khim., 1955, 25, 2493—2496).—2:4-Dichlorophenoxyacetyl chloride, itself by interaction of 2:4-dichlorophenoxyacetyl chloride with suitable amino-acids in the presence of alkali or pyridine. These compounds showed various physiological activities when applied to plants but were generally found to stimulate their growth. Synthesis of N-2;4;5-trichlorophenoxyacetamido-acids (by a similar method from 2:4:5-trichlorophenoxyacetyl chloride) yielded more active compounds. Complete data and classification are tabulated.

A. I. B.

Inst. Biological Pesticides, Acad. Nauk SSSR.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

13

Preparation of 1-naphthylacetic acid by the Willgerodt reaction. Yu. A. Baskakov and N. N. Mel'nikov. *Zhur. Prikład. Khim.* 28, 1010–18(1955). CH_2Cl_2, 183.6 g. Ac_2O, and 205 g. C_6H_6 kept below 2° 2 hrs. gave 92–3.5% *1-naphthyl Me ketone*, b_6 143–5°, b_{15} 154–7°; (20 g.), 20 ml. EtOH, and 20 ml. $(NH_4)_2S_x$ heated in sealed capsule 4–5 hrs. at 155–65° (50–60 atm.) gave after filtration and treatment of the solid residue with CCl_4 81–3.5% *1-naphthylacetamide*, m. 190–2°. This refluxed 6 hrs. with aq. NaOH (6 g. NaOH per 54 ml. H_2O) gave 98% *1-naphthylacetic acid*, m. 131°.

G. M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

USSR/Chemistry - Insecticides

Card 1/1 Pub. 22 - 20/50

Authors : Mandel'baum, Ya. A.; Vladimirova, I. L.; and Mel'nikov, N. N.

Title : Synthesis of diethyl-4-nitrophenylthiophosphate and ethyl-4.4'-dinitrophenylthiophosphate marked with radioactive P^{32} and S^{35}

Periodical : Dok. AN SSSR 100/1, 77-79, Jan 1, 1955

Abstract : The synthesis of insecticides containing phosphor (diethyl-4-nitrophenylthiophosphate and ethyl-4.4'-dinitrodiphenylthiophosphate), is described. The methods employed in the synthesis of the insecticides were first tested on inactive substances. In selecting the proper synthesis method it was necessary to take into consideration the comparatively short period of P^{32} semi-decomposition. The results obtained during the synthesis with marked radioactive P^{32} and S^{35} are listed. Two USSR references (-).

Institution : The Ya. V. Samoilov Scientific Institute on Matters of Fertilizers and Insecticides

Presented by: Academician S. I. Vol'fkovich, March 17, 1954

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

5

Reaction between hexachlorocyclopentadiene and some unsaturated compounds. L. G. Vol'fson, N. N. Mel'nikov, A. F. Platé, Yu. N. Sapozhkov and G. S. Tatts (*Doklady Akad. Nauk SSSR*, 1955, **105**, 1252—1255).—Hexachlorocyclopentadiene is condensed with a series of unsaturated cyclic compounds, to give the following products (figures in parentheses refer, respectively, to yield and to toxicity to insects, taking chlordane as 100): 4 : 5 : 6 : 7 : 8 : 8-*hexachloro*-4 : 7-endo*methylene*-1 : 2 : 3a : 4 : 7 : 7a-*hexahydroindene* (50%; 11), m.p. 162—165° (from *cyclo*pentene; 5 hr. at 120—125°); 4 : 5 : 6 : 7 : 8 : 8-*hexachloro*-4 : 7-endo*methylene*-1-*methyl*-1 : 2 : 3a : 4 : 7 : 7a-*hexahydroindene* (yield not given; 30), m.p. 51—53° (from 2-methyl*cyclo*pentene; 5 hr. at 120°); 1 : 2 : 3 : 3 : 3a : 7a-*hexachloro*-4 : 7-*endoxy*-7-*methyl*-3a : 4 : 7 : 7a-*tetrahydroindene* (yield small; 30), m.p. 175—176° (from 2-methylfuran; 7 hr. at 70°); 1 : 2 : 3 : 4 : 9 : 9-hexachloro-1 : 4-*endo*methylene-1 : 4 : 4a : 5 : 6 : 7 : 8 : 8a-octahydronaphthalene (33%; 50) (from *cyclo*hexene; 30 hr. at 115°); 1 : 2 : 3 : 4 : 10 : 10-hexachloro-1 : 4-5 : 8-di*endo*methylene-1 : 4 : 4a : 5 : 8 : 8a-hexahydronaphthalene (aldrin (yield not given; 200) (from *bicyclo*-2 : 2 : 1-hepta-2 : 5-diene; 25 hr. at 100°); 1 : 2 : 3 : 4 : 10 : 10-hexachloro-1 : 4 : 5 : 8-di*endo*methylene- (76%; 100) (from *bicyclo*-2 : 2 : 1-hept-2-ene; 6·5 hr. at 150°), 1 : 2 : 3 : 4 : 10 : 10-*hexachloro*-1 : 4-5 : 8-di*endomethylene*-6-*methyl*- (46%; 9), m.p. 55—58° (from 5-methyl*bicyclo*-2 : 2 : 1-hept-2-ene; 11 hr. at 150°), 1 : 2 : 3 : 4 : 10 : 10-*hexachloro*-1 : 4-5 : 8-di*endomethylene*-6-*ethyl*- (yield not given; 14); m.p. 56—58° (from 5-ethyl*bicyclo*-2 : 2 : 1-hept-2-ene; 13 hr. at 150°), 1 : 2 : 3 : 4 : 10 : 10-*hexachloro*-1 : 4-5 : 8-di*endomethylene*-6-*n-pentyl*- (64%; toxicity not given), b.p. 188°/0·1 mm., n_D^{20} 1·5403, d_4^{20} 1·3604 (from 5-*n*-pentyl*bicyclo*-2 : 2 : 1-hept-2-ene; 27 hr. at 120—130°), and 1 : 2 : 3 : 4 : 10 : 10-*hexachloro*-1 : 4-5 : 8-di*endomethylene*-6-*acetoxy*-1 : 4 : 4a : 5 : 6 : 7 : 8 : 8a-octahydronaphthalene (33%; 20) (from 5-acetoxy*bicyclo*-2 : 2 : 1-hept-2-ene; 23 hr. at 95°); and 1 : 2 : 3 : 4 : 7 : 7-hexachloro-5-phenyl-*bicyclo*-2 : 2 : 1-hept-2-ene (87%; 30) (from styrene; 3 hr. at 165—170°). The products are resistant to weathering, and do not lose Cl after boiling with N-NaOH in methanol for 1 hr.

R. TRUSCOE.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

VOL'FSON, L.G.; MEL'NIKOV, N.N.

Effect of fillers on the stability of DDT dusts. [Trudy] NIUIF no.156:64-73 '55. (MLRA 9:10)

(DDT (Insecticide))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

[redacted], N. J. and [redacted], Va. A.

"Preparation of [redacted]"
Paper presented at [redacted]
[redacted] Dec 64

3 : B-3, 24,[redacted]

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

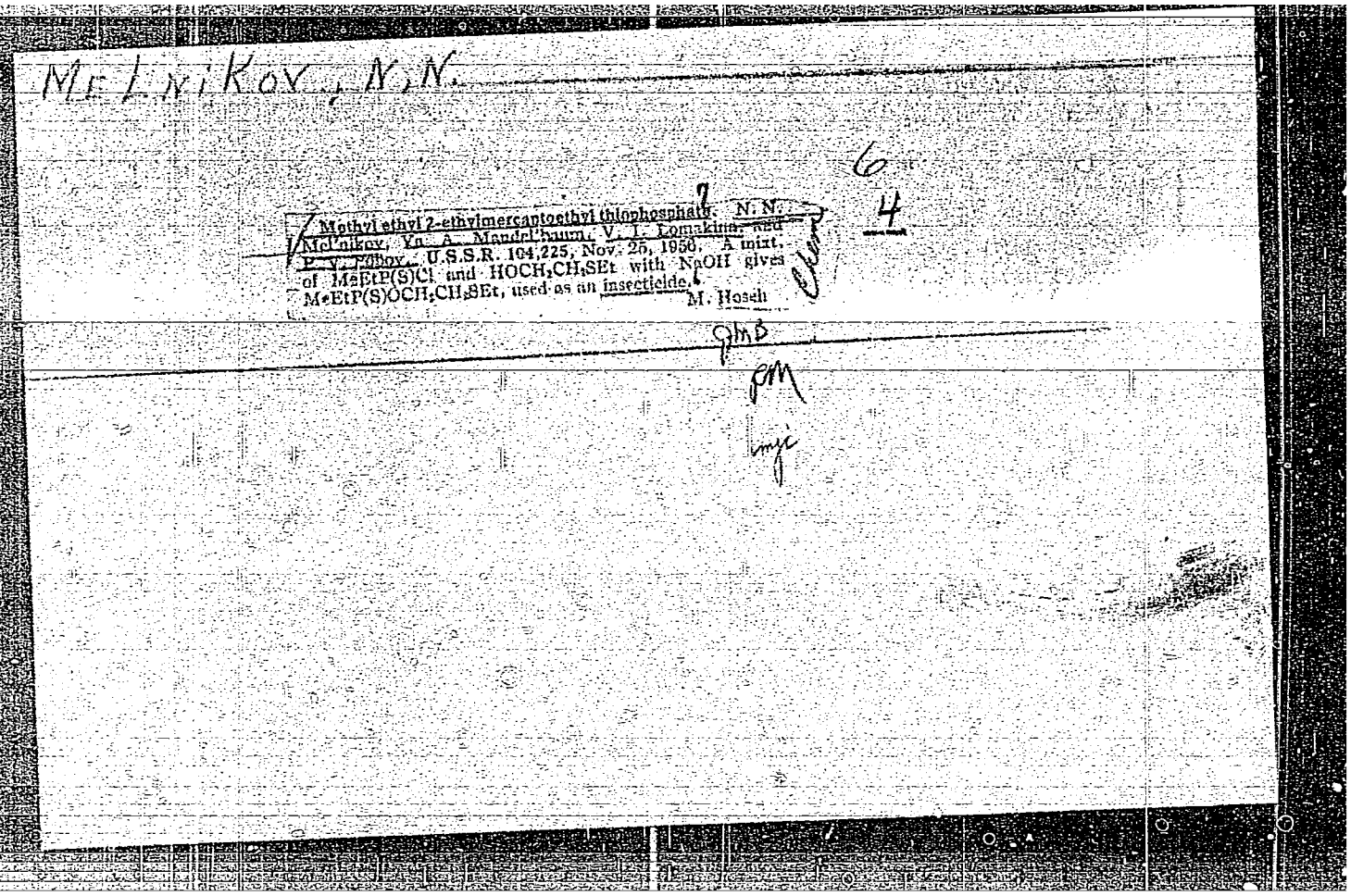
MEL'NIKOV, N. N.

"Exploratory Work by Insectofungicide Institute Among Organophosphorous Insecticides"
paper presented at Nn First Conference on Phosphorous Compounds, Kazan, 8-10 Dec 56

SO: B-3,084,841

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



Mel'nikov, N. N.

Methyl ethyl 2-ethylmercaptoethyl thiophosphate. N. N. Mel'nikov, Yu. A. Mandel'baum, V. I. Lomakina, and P. V. Tobov. U.S.S.R. 104,225, Nov. 25, 1956. A mixt. of MeEtP(S)Cl and HOCH$_2$CH$_2$SEt with NaOH gives MeEtP(S)OCH$_2$CH$_2$SEt, used as an insecticide. M. Hoseh

6
4

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

RODIONOV, V.M., akademik, redaktor [deceased]; KAZANSKIY, B.A., akademik, redaktor; KNUNYANETS, I.L., akademik, redaktor; SHEMYAKIN, M.M., redaktor; MEL'NIKOV, N.N., professor, redaktor; TATTS, S.Z., redaktor; SHEMASTINA, Ye.V., redaktor; KORNEYEVA, V.I., tekhnicheskiy redaktor

[Reactions and methods of analysis of organic compounds] Reaktsii i metody issledovaniia organicheskikh soedinenii. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry. Vol.4. 1956. 319 p. (MLRA 9:7)

1. Chlen-korrespondent AN SSSR (for Shemyakin)
(Chemical reactions) (Isomers and isomerization)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

POPOV, Petr Vasil'yevich; YEGOROV, N.G., redaktor; MEL'NIKOV, N.N., professor, redaktor; LUR'YE, M.S., tekhnicheskiy redaktor

[Reference manual of toxic chemicals] Spravochnik po iadokhimikatam. Pod red. N.N. Mel'nikova. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1956. 623 p. (MLRA 10:5)
(Agricultural chemicals)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MELNIKOV, N. N.

USSR/Special and General Zoology - Insects. 0-3

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 69838

Author : Melnikov, N.N.
Inst :
Title : The Chemical Means of Plant Protection and Their Application.

Orig Pub : Khim. nauka i proo-st'., 1956, 1, No 2, 160-173

Abstract : The tremendous growth in the production of chemicals for the protection of plants, and of weed-killers is noted. The world production of chloro- and organophosphorus preparations may consist of hundreds and thousands of tons. In USA the production of basic weed-killers in 1950-1954 was about 275 thousand tons a year. The assortment of preparations is constantly increasing. And so, in the USA in 1953 about 5100 preparations, and in 1955 over 6000, and in Germany 1000 substances were produced, but the active radical of these preparations may be limited

Card 1/2 - 34 -

[illegible] compounds; derivatives of dithiocarbaminic acid, quinones, 3-n-chlorophenyl-5-methylrhodamine; fungicides with systemic effect; antibiotics; mordants - organic Hg-compounds, hexachlorobenzol, 2,4,5-thrchlorophenolates of Cu, et al. As rodent killers the following should be noted: Thallium sulfate and Zinc phosphide; squill, (glucoside, skilliraside); a-naphthylthiourea, and n-chlorophenyldiazothiourea; salts of fluoro-acetic acid and fluoro-acetamid; anticoagulants- production of coumarine et al. A special chapter is developed to herbicides, defoliants and dessicants.

Card 2/2 - 35 -

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

Conference on defoliation. Khim. prom. no.3:184 Ap-My '56.
(MLRA 9:10)

(Agricultural chemicals)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

BASKAKOV, Yu.A.; MEL'NIKOV, N.N.

On transformations of growth stimulators in plants. (1-alkylindolyl-3-acetic acids) [with English summary in insert]. Fiziol.rast. 3 no.3:208-213 My-Je '56. (MLRA 9:9)

1.Institut fiziologii rasteniy imeni K.A.Timiryazeva i Institut biokhimii imeni A.N.Bakha Akademii nauk SSSR, Moskva.
(Growth promoting substances) (Acetic acid)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Mel'nikov, N. N.

Syntheses of some derivatives of 3,6-endoxohexahydrophthalic acid. N. N. Mel'nikov and V. A. Kraft. *Zhur. Obshchei Khim.* 26, 213–18; *J. Gen. Chem. U.S.S.R.* 26, 221–32(1956)(Engl. translation).—Adducts of maleic anhydride with furan and sylvan were hydrogenated over Pd on metallic Ni (cf. Ginzberg and Ivanov, *C.A.* 25, 4173) in Me_2CO or H_2O soln. Thus were prepd. *3,6-endoxohexahydrophthalic anhydride* (I), m. 116–17°, and the *3-methyl deriv.*, m. 105–6°. The hydrogenations run in aq. Na_2CO_3 gave the free acids which were converted to the anhydrides by treatment with AcCl. The anhydrides were treated with amines in dioxane soln., best run with cooling, yielding the following *N-R-substituted 3,6-endoxohexahydrophthalamic acids* (R shown): *N,N-diethyl*, 84.6%, m. 132–3°; *N-Ph*, 100%, decomp. 161°; *N-I-$C_{10}H_7$*, 83.3%, m. 164°. Heating these briefly gave loss of H_2O and formed 100% *N-phenylimide of 3,6-endoxohexahydrophthalic acid*, m. 163–4°; the *3-Me deriv.*, m. 210–20°. Similarly were prepd. *N-R-substituted 3-methyl-3,6-endoxohexahydrophthalamic acids: N,N-dimethyl*, 100%, m. 122–3°; *N,N-diethyl*, 90.2%, m. 129–30°; *N-Ph*, 85.2%, m. 144–5°; *N-I-$C_{10}H_7$*, 77.8%, m. 143.5–4°; and the *N-phenylimide of 3-methyl-3,6-endoxohexahydrophthalic acid*, m. 179.5–80°. The anhydrides treated with alcs. in the presence of a catalytic amt. of $PhSO_3H$, using CH_2ClCH_2Cl as the azeotrope with H_2O, gave the following esters: *3,6-endoxohexahydrophthalic acid di-Pr ester*, 73.5%, m. 55–6°; *di-iso-Pr ester*, 59%, m. 103–4°; *di-Bu ester*, 73.5%, m. 61–2°; *di-iso-Am ester*, m. 80–7°, 89%; *3-methyl-3,6-endoxohexahydrophthalic acid di-Pr ester*, 77.8%, m. 61–2°; *di-iso-Pr ester*, 81.5%, m. 76.5–7.5°; *di-Bu ester*, 83.5%, m. 43–4°. Chlorination of I in $CHCl_3$ at 0–5° 3 hrs. gave 70.3% *3,6-endoxo-4,5-dichlorohexahydrophthalic anhydride*, m. 161–2°; the *3-methyl deriv.*, prepd. similarly, m. 151–2°. These appear to be exo-cis isomers; the last product was accompanied by an isomer, m. 107°, apparently the geometric isomer of the high-melting form. G. M. K.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

Nauchnyy Institut po udobreniyam i insektofungitsidam

Chem

Organic insectofungicides. XVIII. New method of preparation of esters of chloro- and dichlorothiophosphoric acids. Z. M. Bakanova, Ya. A. Mandel'baum, N. N. Mel'nikov, and E. I. Sventsitskii. *Zhur. Obshchei Khim.* 26, 494-5(1956); cf. *C.A.* 50, 2415*d*.—Refluxing fine Al wire in 2–4 fold excess of abs. EtOH in the presence of 0.1 g. $Hg(OAc)_2$ and a little iodine for activation of Al, until all Al goes into soln. results in a rapid prepn. of $Al(OEt)_3$. With an equimolar amt. of EtOH, C_6H_6 is used as a diluent and the reaction is much slower. To 17 g. $PSCl_3$ there was added with cooling a soln. from 0.5 g. Al and 3 g. EtOH in 8 ml. C_6H_6; after 3 hrs. at 50° the mixt. was washed with ice-H_2O acidified with HCl, dried, and distd., yielding 40% $EtOPSCl_2$, b_{20} 68°, d_4^{20} 1.3968, n_D^{15} 1.5030. To 34 g. $PSCl_3$ was added with cooling a soln. from 2 g. Al and 25 ml. EtOH; after 2 hrs. at 50–60° the cooled mixt. was washed with cold H_2O acidified with HCl, yielding 42% $(EtO)_2PSCl$, b_{15} 95–8°, d_4^{20} 1.2015, n_D^{15} 1.4670. XIX. Synthesis of mixed esters of dithiophosphoric acid containing an amide group in the aliphatic ester radical. K. D. Shvetsova-Shilovskaya, N. N. Mel'nikov, and N. I. Martem'yanova. *Ibid.* 496–8.—Appropriate aldehydes and esters of carbamic acid were mixed and treated with $(RO)_2PS_2H$; after standing 1–3 days at room temp. the products were extd. with C_6H_6, washed with H_2O, dried and distd. No other details are given. Thus were prepd.: $(RO)_2P(S)SCH_2NR'CO_2R''$ (R, R', R'', % yield, b.p., d_{20}, and n_D^{20} given): *Me*, *H*, *Et*, 36.3, $b_{0.4}$ 107–10°, 1.3498, 1.5091; *Et*, *H*, *Et*, 42, $b_{0.05}$ 64–8°, 1.1904, 1.4090; *Pr*, *H*, *Et*, 60.7, $b_{0.05}$ 82°, 1.0890, 1.4612; *iso-Bu*, *H*, *Et*, 46.6, $b_{0.05}$ 122–4°. —, —(m. 22°); *Et*, *Me*, *Et*, 20.8, $b_{0.15}$ 107–14°. 1.1814, 1.5041; *Bu*, *Me*, *Et*, 53.7, $b_{0.4}$ 145–52°, 1.0675, 1.4870; *iso-Bu*, *Me*, *Et*, 67.5, $b_{0.4}$ 124–7°.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Bakanova, Z. M., Mandel'baum, Ya. A.

1.0591, 1.4840; *Et, Et, Et*, 52.5, $b_{0.12}$ 108–13°, 1.0301, 1.4807; *Et, Et, iso-Pr*, 65, $b_{0.12}$ 112–20°, 1.1118, 1.4967; *iso-Pr, Et, iso-Pr*, 39.2, $b_{0.12}$ 113–20°, 1.0560, 1.4820; *Bu, Et, iso-Pr*, 70.5, $b_{0.12}$ 136–40°, 1.0718, 1.4890; *Bu, H, Et*, 80.6, $b_{0.2}$ 100°, 1.2523, 1.5000. $(RO)_2P(S)SCHMeNR'$–CO_2R'': *Et, H, Et*, 44, $b_{0.1}$ 74–83°, 1.1592, 1.4896; *iso-Pr, H, Et*, 30.6, $b_{0.2}$ 90–3°, 1.1008, 1.4744; *iso-Bu, H, Et*, 43.3, $b_{0.2-0.4}$ 95–114°, 1.0845, 1.4906; *Me, Et, Et*, 25.4, b_1 70–1°, 1.1826, 1.4980; *Pr, Et, Et*, 18.8, $b_{0.1}$ 75–85°, 1.0703, 1.4925; *iso-Pr, Et, Et*, 33, b_1 99°, 1.0793, 1.4780; *iso-Bu, Et, Et*, 61, $b_{0.2}$ 92–103°, 1.0554, 1.4855; *Me, Et, iso-Pr*, 30, $b_{0.1}$ 66–75°, 1.0595, 1.4973. The substances are said to be weak contact insecticides, but unspecified ones have fairly strong systemic activity. G. M. Kosolapoff

2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

Organic insectofungicides. XIX. Synthesis of [substituted] aminoalkyl esters of dithiophosphoric acid. K. D. Shvetsova-Shilovskaya, N. N. Mel'nikov and N. I. Martem'yanova (*Zh. obshch. Khim.*, 1956, 26, 1097–1098).—A series of esters of general formula $(OR)_2PS{\cdot}SCHR''{\cdot}NR'{\cdot}CO_2R'''$ were prepared by the Mannich reaction. R was Me, Et, Pr^n, Pr^i, Bu^n or Bu^i; R' was H, Me or Et; R'' was Et or Pr^i; R''' was H or Me. Physical constants are given for the esters. Most have weak contact insecticidal action, and some, not specified, act as systemic insecticides, approaching pyrophosphoric octamethyltetramide in activity and persistence.

R. Truscott.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

Insectofungicides. XX. Synthesis of mixed esters of phosphorothionic acid containing heterocyclic radicals. K. D. Shvetsova-Shilovskaya, N. N. Mel'nikov and A. F. Grapov (*Zh. obshch. Khim.*, 1956, 26, 808—810).—Synthesis is described of esters of phosphorothionic acid with pyrazolone, pyrimidine and furan radicals. Pyrimidine and pyrazolyl esters of phosphorothionic acid were obtained by reaction of diethyl phosphorochloridothionate with K derivatives of heterocyclic compounds by prolonged heating in toluol. Furfuryl diethylphosphothionate was synthesized by treating furfuryl alcohol with diethyl phosphorochloridothionate in pyridine. The compounds obtained exhibited strong insecticide activity. — A. L. B.

Chem 3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

Chem

Organic insectofungicides. XX. Synthesis of mixed esters of thiophosphoric acid containing heterocyclic radicals. K. D. Shvetsova-Shilovskaya, N. N. Mel'nikov, and A. F. Grapov. *J. Gen. Chem. U.S.S.R.* 26, 925–7 (1956)(English translation).—See *C.A.* 50, 14769g.

B. M. R.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

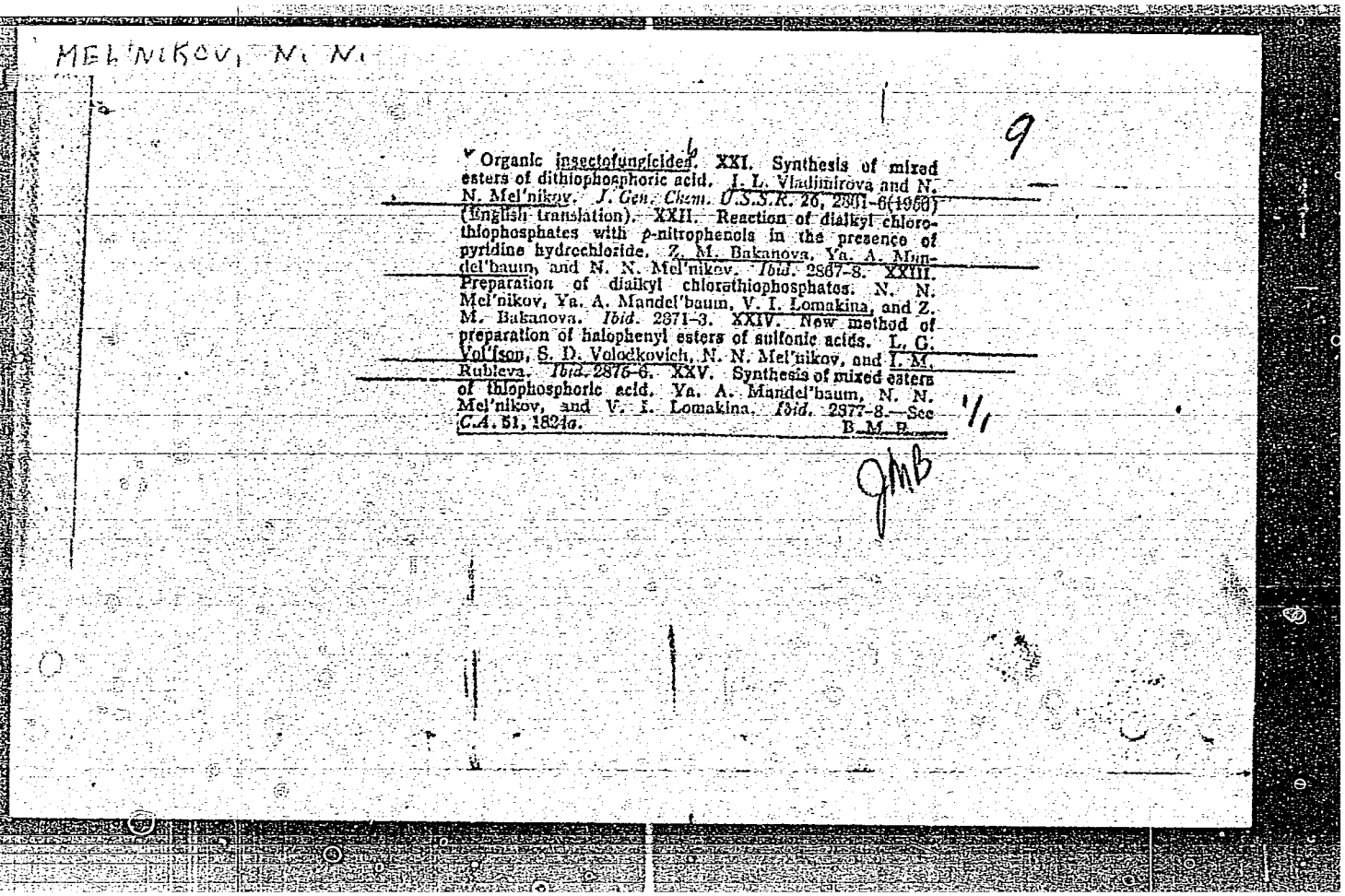
MEL'NIKOV, N. N.

Organic pesticides. XXI. Synthesis of mixed esters of phosphorodithioic acids. I. L. Vladimirova and N. N. Mel'nikov. XXII. Reactions of dialkyl phosphorochloridothioates with p-nitrophenol in presence of pyridine hydrochloride. Z. M. Bakanova, Ya. A. Mandel'baum and N. N. Mel'nikov. XXIII. Preparation of dialkylchlorothiophosphites. N. N. Mel'nikov, Ya. A. Mandel'baum, V. I. Lomakina and Z. M. Bakanova. XXIV. New method of preparing halogenophenyl esters of sulphonic acids. L. G. Wolfson, S. D. Volodkovich, N. N. Mel'nikov and I. M. Rubtsova. XXV. Synthesis of mixed esters of phosphorothioic acid. Ya. A. Mandel'baum, N. N. Mel'nikov and V. I. Lomakina (*Zh. obshch. Khim.*, 1959, 29, 2569—2575, 2575—2577, 2577—2579, 2579—2581, 2581—2583).—XXI. Forty new compounds, of which some are claimed to be strong insecticides, are synthesized by combining different unsaturated compounds by means of double bonds with dialkyl (I) and diaryl phosphorodithioate (II), yielding mixed esters of phosphorodithioic acid. The combination of I with esters of chloromaleic, citraconic and itaconic acid went contrary to the Markownikoff rule. In some cases reactions took several weeks. A higher degree of purity was achieved by repeated washing of reaction products with 10% aq. Na_2CO_3 and then drying by means of anhyd. $CaCl_2$. Filtered deposits were dissolved in benzene and chromatographed on activated Al_2O_3. The chloromaleic anhydride used was obtained by chlorination of maleic anhydride at high temp. using iron chloride.

XXII. The reaction mechanism of dialkyl phosphorochloridothioates with *p*-nitrophenol in the presence of pyridine hydrochloride is discussed; the main product was *S*-alkyl *OO*-4 : 4'-dinitrodiphenyl phosphorothioate, which was obtained through disproportionation and re-esterification.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



MEL'NIKOV, N. N.

9

Organic insectofungicides. XXI. Synthesis of mixed esters of dithiophosphoric acid. I. L. Vladimirova and N. N. Mel'nikov. *J. Gen. Chem. U.S.S.R.* 26, 2861–6(1956) (English translation). XXII. Reaction of dialkyl chlorothiophosphates with *p*-nitrophenols in the presence of pyridine hydrochloride. Z. M. Bakanova, Ya. A. Mandel'baum, and N. N. Mel'nikov. *Ibid.* 2867–8. XXIII. Preparation of dialkyl chlorothiophosphates. N. N. Mel'nikov, Ya. A. Mandel'baum, V. I. Lomakina, and Z. M. Bakanova. *Ibid.* 2871–3. XXIV. New method of preparation of halophenyl esters of sulfonic acids. L. G. Vol'fson, S. D. Volodkovich, N. N. Mel'nikov, and I. M. Rubleva. *Ibid.* 2875–6. XXV. Synthesis of mixed esters of thiophosphoric acid. Ya. A. Mandel'baum, N. N. Mel'nikov, and V. I. Lomakina. *Ibid.* 2877–8.—See *C.A.* 51, 1824*a*.

B. M. B.

11

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 898

Author: Nametkin, S. S., Mel'nikov, N. N., and Bokarev, K. S.

Institution: None

Title: None

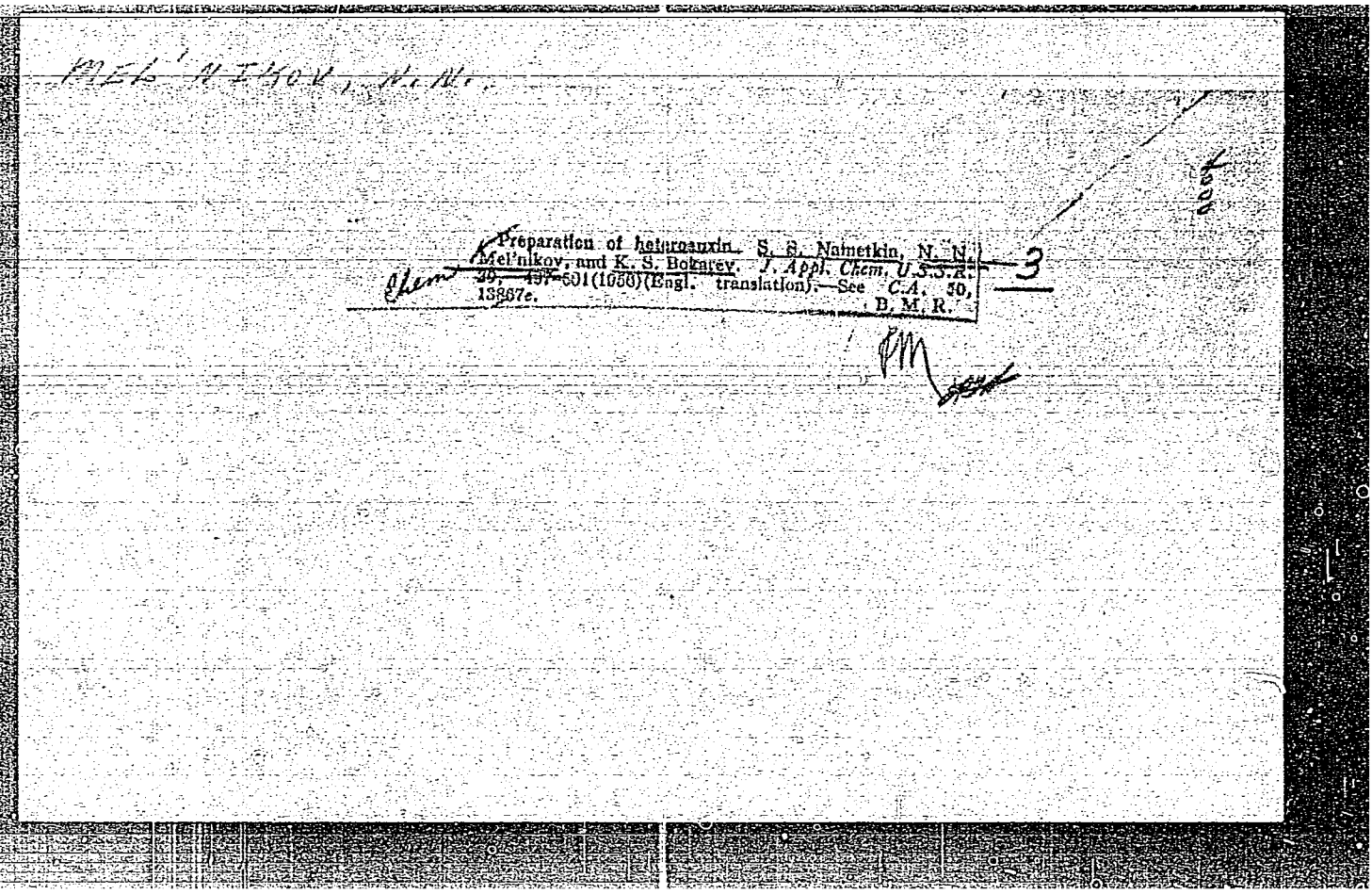
Original Periodical: Zh. prikl. khimii, 1956, Vol 29, No 3, 459-463

Abstract: The synthesis of β-indolylacetic acid (I) by the reaction of indole (II) with ethyl diazoacetate (III) with subsequent hydrolysis of the ethyl ether of β-indolylacetic acid (IV) (Jackson and Manske, Can. J. Res., Sect. B, 1935, 13, 170) has been studied. It was established that the most suitable catalysts for the reaction of I with II are Cu and C_2Cl_2; benzene was found to be the best medium. To a boiling solution of 0.97 moles of II in 250 ml C_6H_6 with 0.1-0.25 gm Cu_2Cl_2 add dropwise a solution of 0.97 moles of III in 800 ml C_6H_6; reflux 1-1.5 hours; filter after cooling. The solvent is distilled off and IV is obtained in yields of 74.5%, bp 213-225°/12 mm. Hydrolysis of IV with 16-17% NaOH yields I; the yield is 82-90%.

Card 1/1

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



MEL'NIKOV, N. N.

Preparation of heteroauxin. S. S. Nametkin, N. N. Mel'nikov, and K. S. Bokarev. *J. Appl. Chem. U.S.S.R.* 25, 497–501 (1950)(Engl. translation).—See *C.A.* 50, 13867e. D. M. R.

3

Chem

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

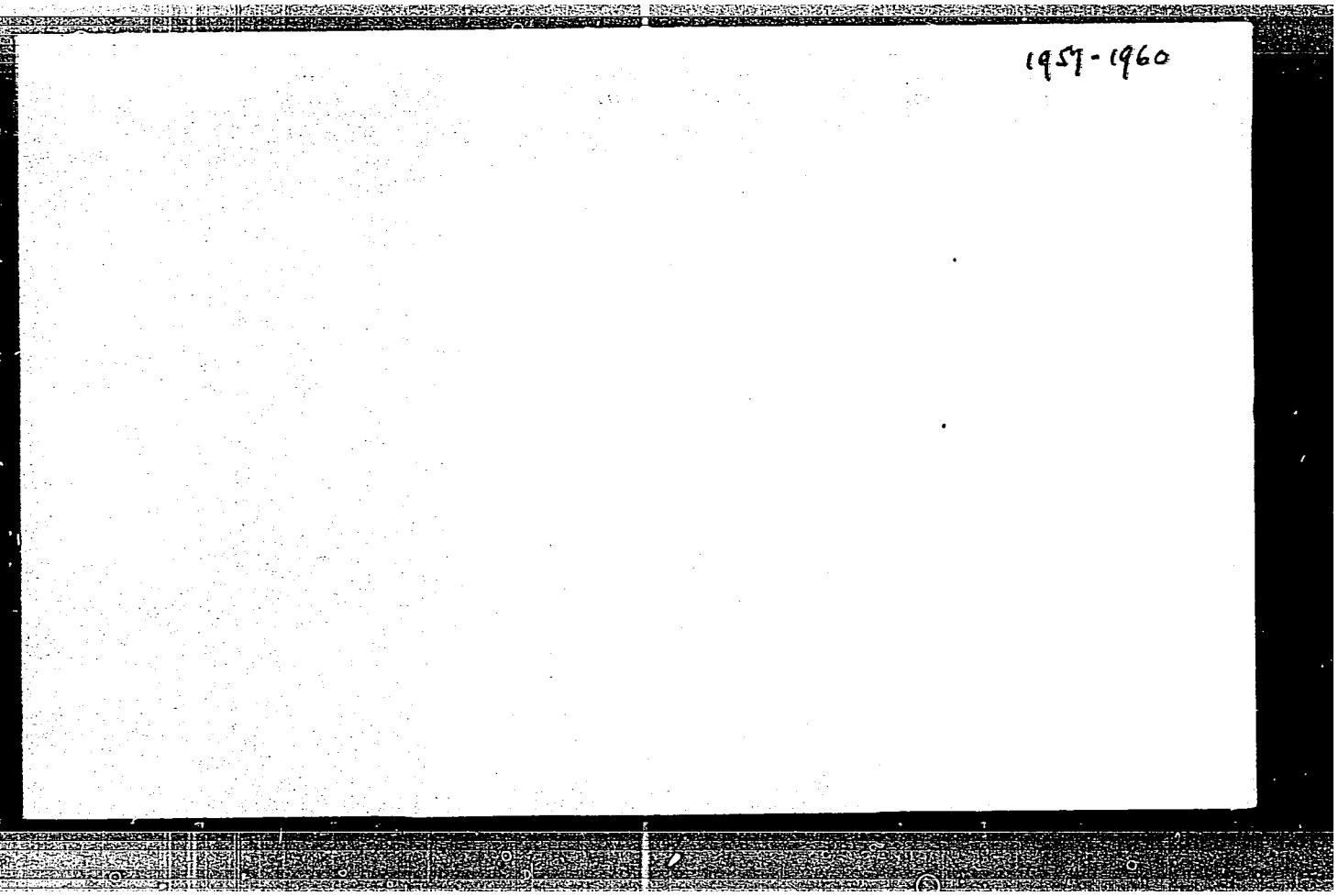
VOL'FKOVICH, S.I., akademik; MEL'NIKOV, N.N., professor.

Chemistry in the struggle for high crop yields. Priroda 45 no.2: 23-37 F '56. (MLRA 9:5)

(Agricultural chemistry)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

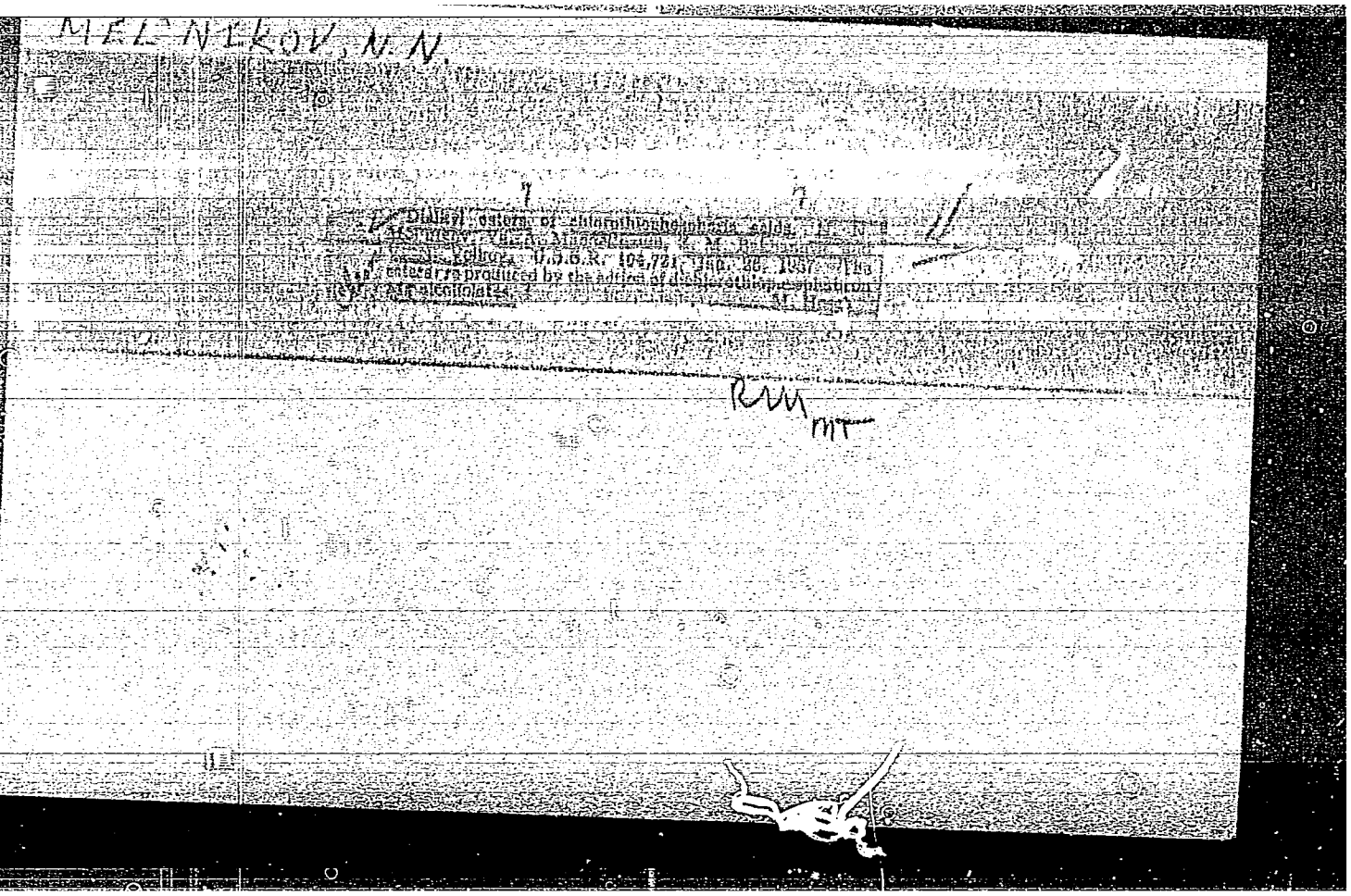
"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

Insecticide. N. N. Mel'nikov, K. D. Shvetsova-Shilovskaya, E. A. Fokeyeva, and A. S. Sedykh. U.S.S.R. 104,641, Jan. 25, 1957. Mixed esters of dithiophosphoric acid contg. a carbamide group in the aliphatic radical, and particularly compds. of the type [(RO)$_2$PSSCH$_2$]$_2$NCO$_2$Et and (RO)$_2$PSSCH$_2$N(Me)CO$_2$Et are used as insecticides.
M. Hoseh

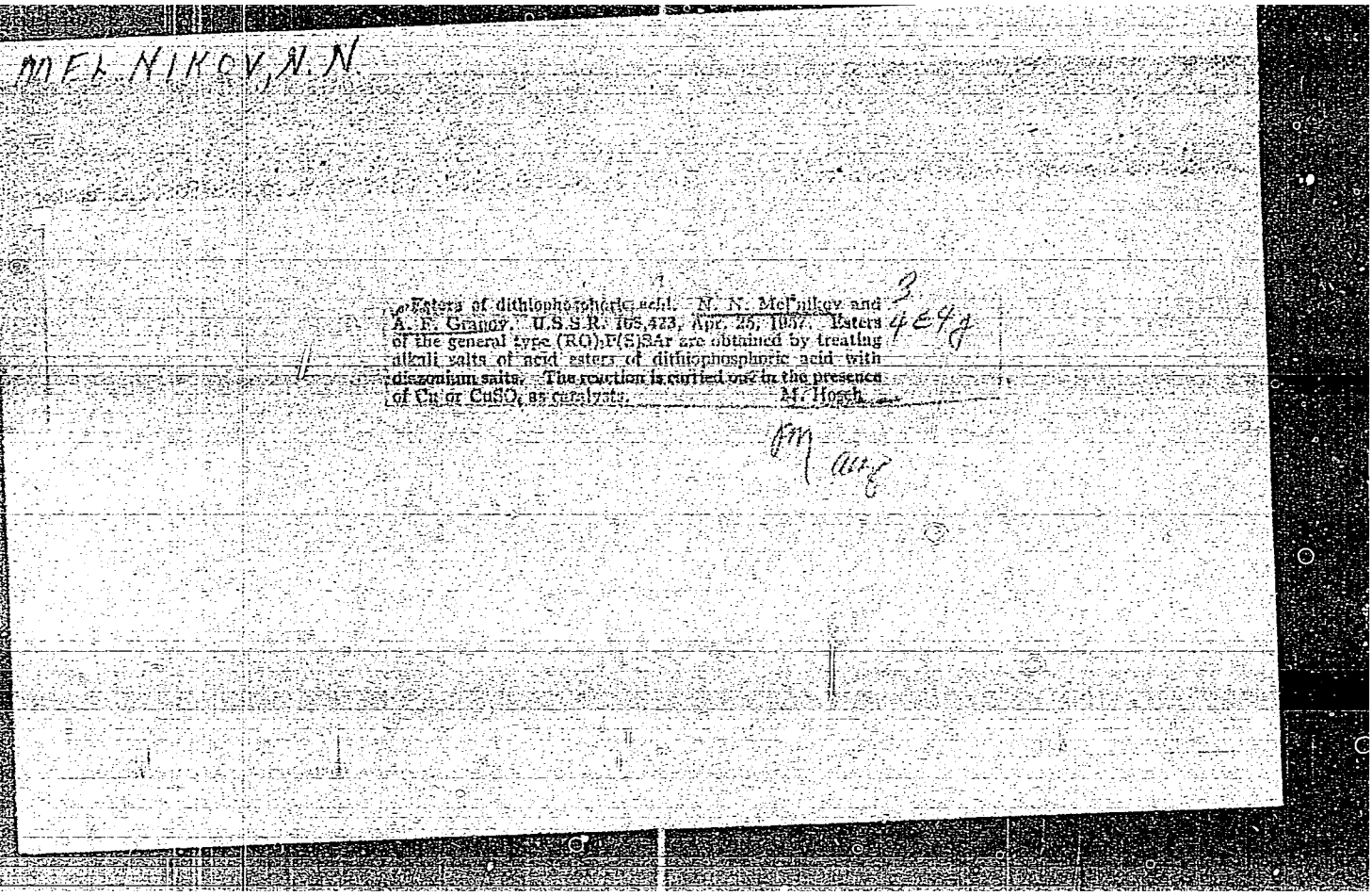
APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

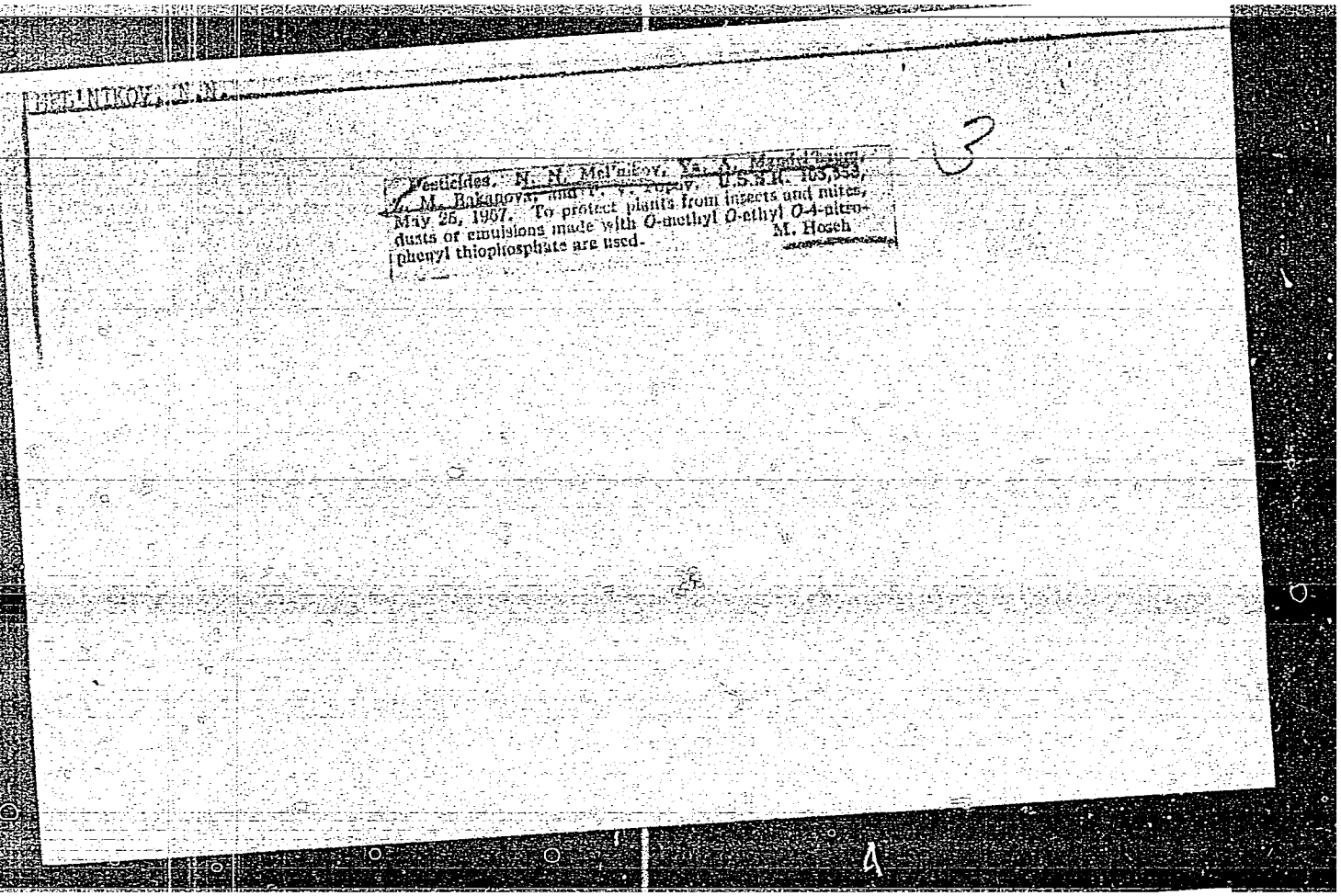


MEL'NIKOV, N. N.

Esters of dithiophosphoric acid. N. N. Mel'nikov and A. F. Granov. U.S.S.R. 105,423, Apr. 25, 1957. Esters of the general type $(RO)_2P(S)SAr$ are obtained by treating alkali salts of acid esters of dithiophosphoric acid with diazonium salts. The reaction is carried out in the presence of Cu or $CuSO_4$ as catalysts. M. Hosch

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

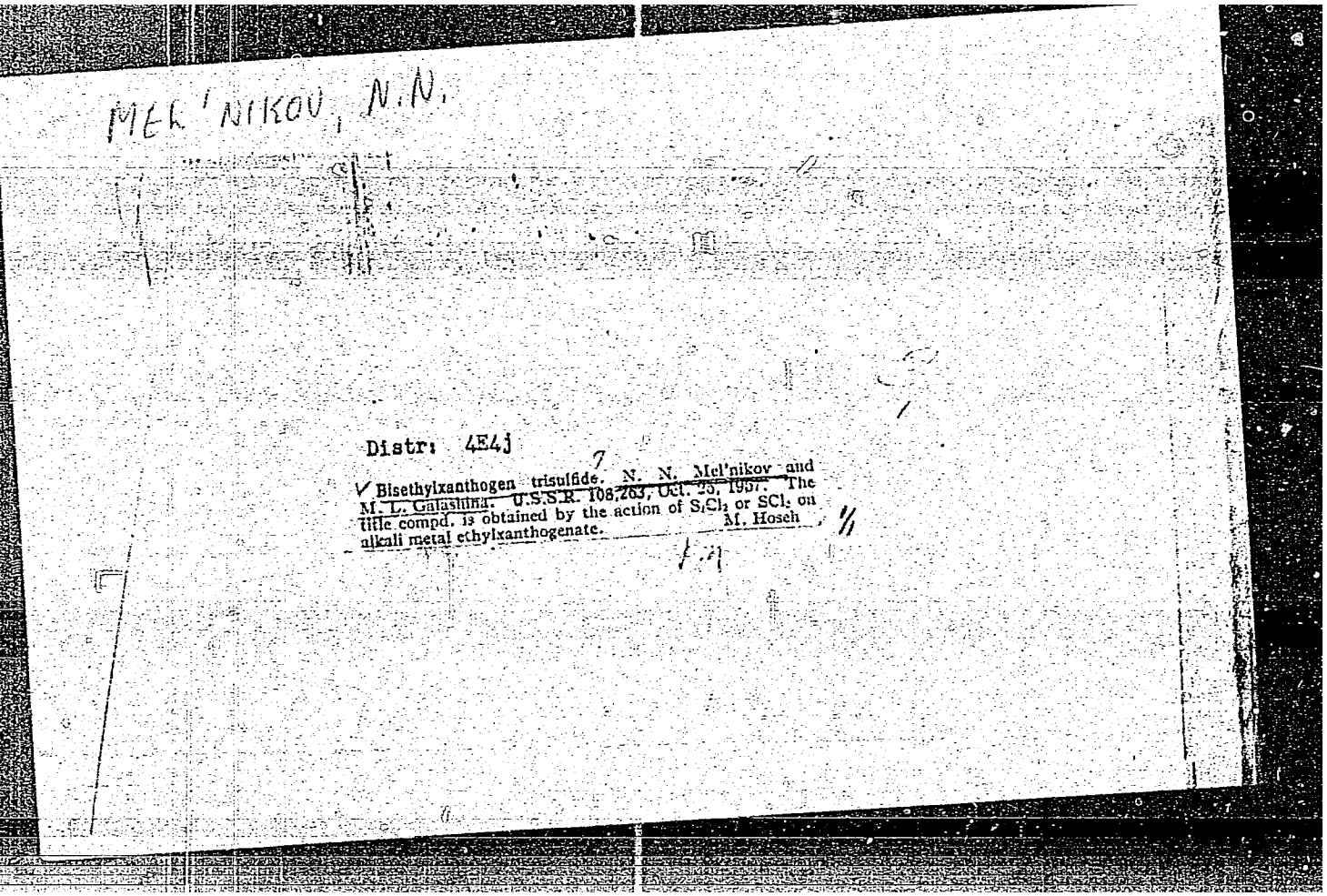


BELYAKOVA, Z. N.

Pesticides. N. N. Mel'nikov, Ya. A. Mazepa, Z. M. Bakanova, and V. V. Kotov. U.S.S.R. 103,533, May 25, 1957. To protect plants from insects and mites, dusts or emulsions made with O-methyl O-ethyl O-4-nitrophenyl thiophosphate are used. M. Hosch

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



MEL'NIKOV, N.N.

Distr: 4E4J

Bisethylxanthogen trisulfide. N. N. Mel'nikov and M. L. Galashina. U.S.S.R. 108,263, Oct. 25, 1957. The title compd. is obtained by the action of S_2Cl_2 or SCl_2 on alkali metal ethylxanthogenate. M. Hoseh

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N. (NIUIF im.Ya. V. Samoylov, Moscow)

"Research works of NIUIF in the field of Organophosphorus Insecticides" (Polskovyye raboty NIUIF v oblasti fosfororganicheskikh insektitsidov)

Chemistry and Uses of Organophosphorous Compounds
(Khimiya i primeneniye fosfororganicheskikh soyedneniy),
Trudy of First Conference, 8-10 December 1955, Kazan,
pp. Published by Kazan Affil. AS USSR, 1957
50-61

Synthesis of organophosphorus compounds described in article carried out by Ya. A. Mandel'baum, K. D. Shvetsova-Shilovskaya, I.L. Vladimirova, A. F. Grapov, N. I. Martem'yanova, Z. M. Bakanova, and V. I. Lomakina; and the testing by P.V. Popov, K. A. Gar, Ye. A. Pokrovskiy, and co-workers.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.; MANDEL'BAUM, Ya. A. (NIUIF im. Ya. V. Samoylov, Moscow)

"On the Production of Dialkylchlorothiophosphates" (O polucheniI dialkilkhlortiofosfatov)

Chemistry and Uses of Organophosphorous Compounds (Khimiya i primeneniye fosfororganicheskikh soyedneniy), Trudy of First Conference, 8-10 December 1955, Kazan, pp. Published by Kazan Affil. AS USSR, 1957

185-193

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

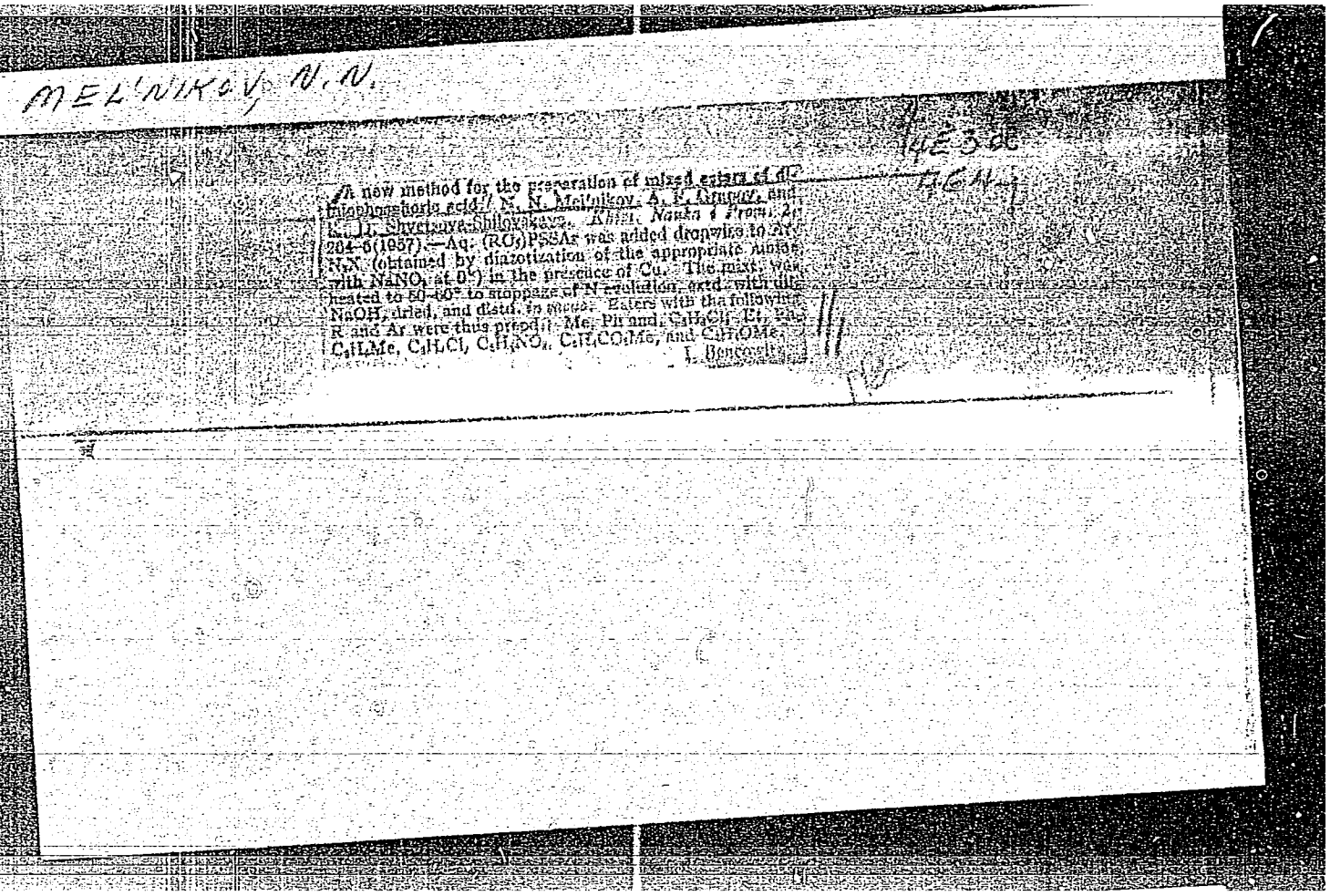
TERENT'YEV, A.P.; YANOVSKAYA, L.A.; RUKHADZE, Ye.G., redaktor; RODIONOV, V.M., akademik, redaktor [deaceased]; KAZANSKIY, B.A., akademik, redaktor; KNUNYANTS, I.L., akademik, redaktor; SHEMYAKIN, M.M., redaktor; NEL'NIKOV, N.N., prof, redaktor; LUR'YE, M.S., tekhnicheskiy redaktor.

[Polarographic analysis in organic chemistry] Poliarograficheskii method v organicheskoi khimii. Moskva, Gos. nauchno - tekhn. izd-vo khim. lit-ry, 1957. 388 p. (Reaktsii i metody issledovaniia organicheskikh soedinenii, vol.5) (MIRA 10:10)

1.Chlen-korrespondent AN SSSR (for Shemyakin).
(Polarography) (Chemistry, Organic)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



MEL'NIKOV, N. N.

14E 3 DC

A new method for the preparation of mixed esters of di
thiophosphoric acid / N. N. Mel'nikov, A. P. Arnopol'skaya, and
L. I. Shvetsova-Shilovskaya. *Khim. Nauka i Prom.* 2(2
204-6(1957).—Aq. $(RO)_2PSSAr$ was added dropwise to Ar
NX (obtained by diazotization of the appropriate amine
with $NaNO_2$ at 0°) in the presence of Cu. The mixt. was
heated to 50–60° to stoppage of N evolution, acid. with dil.
NaOH, dried, and distd. in vacuo. Esters with the following
R and Ar were thus prepd.: Me, Pr, and C_6H_4Cl-p; Et,
C_6H_4Me, C_6H_4Cl, $C_6H_4NO_2$, $C_6H_4CO_2Me$, and $C_6H_3(OMe)_2$.
I. Bencowitz

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

Chemistry in the service of plant protection. Zashch. rast. ot vred. i bol. 2 no.6:41-44 N-D '57. (MIRA 16:1)
(Agricultural chemicals)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

64 - 7- 6/12

AUTHORS: Mel'nikov, N. N., Rokhlin, M. I.

TITLE: Chemicals for the Preservation of Plants (Khimicheskiye sredstva zashchity rasteniy).

PERIODICAL: Khimicheskaya Promyshlennost', 1957, Nr 7, pp.(417)33 - (421)37, (USSR)

...STRACT: Examples are first given how to deal with pests and diseases by chemical means. The basic methods for the practical application of chemical preparations are then described. A survey is given of research institutes: NIUIF - Scientific Research Institute for manures as well as for means of destroying insects and mushrooms, the Scientific Research Institute for half-finished goods and dyes, the State Institute for the nitrogen industry, the institute for organic chemistry, the institute for element-organic compounds, the Kazhan branch AN USSR, the academy of agricultural sciences, etc. There follows a detailed description of the production of DDT, which, at present, contains up to 76 % dichloridephanyltricholormethylmethane, as well as of the various varieties of this preparation. A description and a survey is given of

Card 1/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R0

64 - 7 - 6/12

...emicals for the Preservation of Plants

the production of the second-important insecticide, hexachlorine-cyclohexane, by means of which it was possible to destroy locusts in the USSR completely. Although the method of photochemical chlorization of benzene, which is employed also in the U.S.A. and in Western Germany, must be considered to be the best at present, a far more rational method for the production of a preparation containing 13-15 % gamma isomer was developed in the USSR. The preparation is also transformed into "lindan" (100% gamma isomer), so that it loses its unpleasant smell. Since 1942 chlorinated turpentine, the emulsion concentrate of which is used as SK9 preparation even today, is being produced. In the U.S.A. a similar preparation, which contains a little more chlorine, and is known as "Stroban" has been in use only since a very short time. There follows a survey of the various insecticides etc. with contact- and system effect of the various methods and preparation for the pickling

CARD 2/3

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Mel'nikov N.N.

64-8-16/19

AUTHOR: Mel'nikov, N. N.

TITLE: Fourth International Congress for Plant Protection (Chetvertyy mezhdunarodnyy kongress po zashchite rasteniy).

PERIODICAL: Khimicheskaya Promyshlennost', 1957, Nr 8, pp. 51-52 (USSR)

ABSTRACT: The congress took place in Hamburg from September 8th up to September 15th, 1957. 60 countries, among them also the USSR, took part in it. Approximatively 1200 persons were present. More than 420 speeches were delivered. A short general review about the themes delt with are given without the titles of the reports and without the names of the reporters.

AVAILABLE: Library of Congress

Card 1/1

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

Fourth International Congress on Plant Protection. Khim. prom. no.8: 499-500 D '57. (MIRA 11:2)
(Hamburg--Plants, Protection of--Congresses)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Mel'nikov, N. N.

8
4E4 j
4E3 h2
4E2c (j)
2 may
(1)

Organic insectofungicides. XXVI. New method of synthesis of mixed esters of dithiophosphoric acid. N. N. Mel'nikov, A. F. Granov, and K. D. Shvetsova-Shilovskaya (Sci. Inst. Fertilizers and Insectofungicides, Moscow). *Zhur. Obshchei Khim.* 27, 1905–7(1957); cf. *C.A.* 51, 1824a.—The following method was used to prep. mixed esters of dithiophosphoric acid. To an aq. soln. of an aryl diazonium salt, freed of excess HNO_2 by air-blowing, was added an aq. soln. of equimolar amt. of $(RO)_2PS_2H$ in the form of a salt, such as K, and 0.1 g. powd. Cu/0.1 mole reactants. The mixing was done at 0–2° and the mixt. warmed to 40–50° until N evolution terminated. After cooling to 10–15°, the mixt. was extd. with Et_2O and the dried ext. distd. Thus were obtained: $PhSP(S)(OMe)_2$, 54%, $b_{0.1}$ 95–7°, d_4^{20} 1.2466, n_D^{20} 1.5927 (gives 50% kill of *Calandra oryzae* at 0.021% in 50 hrs.); $PhSP(S)(OEt)_2$, 48%, $b_{0.1}$ 102.5–4.5°, 1.1823, 1.5629 (0.03%); *o*-$MeC_6H_4SP(S)(OMe)_2$, 46.5%, $b_{0.1}$ 101–2.5°, 1.1644, 1.5660 (—%); *m*-isomer, 40%, $b_{0.1}$ 102.5–2.8°, 1.1729, 1.5662 (—%); *p*-isomer, 27.5%, $b_{0.1}$ 104.5–5°, 1.2136, 1.5829 (0.03%); *o*-$MeC_6H_4SP(S)(OEt)_2$, 47.5%, $b_{0.1}$ 118–18.5°, 1.1696, 1.5642 (0.07%); *m*-isomer, 42%, $b_{0.05}$ 105–7°, 1.1781, 1.5624 (0.012%); *p*-isomer, 51%, $b_{0.1}$ 110–12°, 1.1779, 1.5639 (0.035%); *m*-$ClC_6H_4SP(S)(OEt)_2$, 45%, $b_{0.05}$ 104.5–6.5°, 1.2538, 1.5730 (—%); *p*-isomer, 51.3%, $b_{0.1}$ 122–3°, 1.2627, 1.5750 (—%); *p*-$O_2NC_6H_4SP(S)(OEt)_2$, 41.6%, $b_{0.1}$ 157–9°, m. 45.5–6.5° (0.001%). If the soln. of the diazonium salt is not freed of N oxides the $(RO)_2PS_2H$ is oxidized to the disulfide and the products are badly contaminated.

G. M. Kosolapoff

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

MEL'NIKOV, N.N.; MANDEL'BAUM, Ya.A.; SVENTSITSKIY, Ye.I.; BAKANOVA, Z.M.

On organic insectofungicides. Part 27: New method for the preparation of esters of chlorothiophosphoric acid. Zhur.ob.khim. 27 no.7:1908-1910 Jl '57. (MIRA 10:10)

1.Nauchnyy institut po udobreniyam i insektofungisidam.
(Insecticides) (Chlorothiophosphoric acids)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MELNIKOV, N. N.

"Certain Trends in the Development of Chemistry and the Chemical Industry in the U.S.S.R.,"

paper submitted at Chemical Engineering Conf. Montreal, 20-23 Apr 58

TRANS Available; B 3,104,359, 12 May 58

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R0

M-5

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing.

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91748

Author : Mel'nikov, N.N., Galashina, M.L.

Inst : -

Title : Studies of New Chemical Methods for the Pre-Harvest Removal of Cotton Plant Leaves.

Orig Pub : B sb.: Materialy Ob'yedin. nauchn. sessii po khlopkovodstvu. T. 2 Tashkent. Gosizdat UzSSR, 1958, 250-256.

Abstract : No abstract.

Card 1/1

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

Hydrocarbons, halogen derivatives of hydrocarbons, and nitro compounds. Itogi nauki: Biol.nauki no.2:59-68 '58. (MIRA 14:4)
(Hydrocarbons) (Nitro compounds)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N.

Alcohols, phenols, and simple esters. Itogi nauki: Biol.nauki no.2:69-78 '58. (MIRA 14:4)

(Alcohol) (Esters) (Phenols)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

64-58-3-9/20

AUTHORS: Baskakov, Yu. A., Mel'nikov, N.N.

TITLE: On the Production of Maleic Acid Hydrazide (O poluchenii gidrazida maleinovoy kisloty)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 3, pp 32-35 (USSR)

ABSTRACT: The growth-inhibiting property of cyclic anhydride of maleic acid caused an intensive investigation of this substance, mainly in 1949 - 1954. This compound has three tautomeric forms, the crystalline form being the oxy-pyridazone form. With lye the hydrazide behaves like a monobasic acid. The Na-, K-, and ammonium salts in this case are well soluble in water. Different reactions of the hydrazide are mentioned as well as some specific properties with regard to its effect on plants and warm-blooded animals which were taken from publications. With that also the first syntheses of Curtius (reference 52) and of Arndt, Loewe , and Ergener (reference 53) are mentioned. In order to investigate the production technology a systematical investigation of the processes in presence of different organic and inorganic acids was made. With that a strong

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

On the Production of Maleic Acid Hydrazide 64-58-3-9/20

dependence of the hydrazide yield on the pH of the medium was stated, and high yields are obtained with linear molecular acids the dissociation constant of which is greater than that of maleic acid. The formation of hydrazide takes place in two stages, first an acid hydrazide is formed and then it is cyclized. For the production of salts of maleic acid hydrazide the following scheme is proposed: production from hydrazine sulfate and anhydride of maleic acid in an aqueous medium with warming up and mixing. Cooling of the reaction mixture. Filtration and washing of the hydrazide with subsequent drying and production of salts from maleic acid hydrazide and diethanolamine or sodium lye.
There are 2 tables and 58 references, 11 of which are Soviet.

ASSOCIATION: Institut fiziologii rasteniy imeni K. A. Timiryazeva AN SSSR (Institute for Plant Physiology imeni K. A. Timiryazev, AS USSR)

1. Malic acid hydrazide--Production 2. Malic acid hydrazide--Physiological effects 3. Malic acid hydrazide--Chemical properties 4. Herbicides--Analysis

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

BASKAKOV, Yu.A.; MEL'NIKOV, N.N.

Preparation of maleic acid hydrazide. Khim. prom. no.3:160-163 Ap-My '58. (MIRA 11:6)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR. (Maleic acid)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N.N., prof., doktor khim.nauk

Phosphorus organic insecticides and acaricides. Zashch. rast. ot vred. i bol. 3 no.5:13-15 S-O '58. (MIRA 11:10)
(Insecticides) (Phosphorus organic compounds)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

BASKAKOV, Yu.A.; MEL'NIKOV, N.N.

New herbicides produced from phenyl-hydroxylamine. Khim.nauk i prom. 3 no.5:683-684 '58. (MIRA 11:11)

1. Nauchno-issledovatel'skiy institut udobreniy i insektofungitsidov. (Hydroxylamine) (Carbamic acid) (Herbicides)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

79-1 32/63

AUTHORS: Kukalenko, S. S., Mel'nikov, N. N.

TITLE: **Organic Insecti- and Fungicides** (Iz oblasti organicheskikh insektofungitsidov). XXVIII. The Synthesis of Some Ethers of Bicyclo-(2,2,1)-Heptenyl-5-Carbinol-2 (XXVIII. Sintez nekotorykh efirov bitsiklo-(2,2,1)-geptenil-5-karbinola-2).

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 1, pp. 154-157 (USSR).

ABSTRACT: Much attention was recently paid to different polycyclic compounds obtained by the way of diene-synthesis from cyclopentadiene and hexachlorocyclopentadiene, because extremely active insecticides were found among them (reference 1-6). For this reason syntheses of similar polycyclic compounds were performed, in order to determine the dependence of this activity on their structure. Above all the authors synthesized various ethers of bicyclo-(2,2,1)-heptenyl-5-carbinol-2 by conversion of cyclopentadiene with allyl esters of different acids. These syntheses were of importance, as the condensation of cyclopentadiene was hitherto known in publications only with allyl alcohol, chloro- and bromoallyl, some vinyl ether, acrolein.

Card 1/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Organic Insecti- and Fungicides XXVIII. Synthesis 75-1 32/63
of Some Ethers of Bicyclo-(2,2,1)-heptenyl-5 Carbinol-2

acetylene and a few other compounds. The reaction of cyclo-
pentadiene with the allyl esters of various acids takes place
at an elevated temperature in an autoclave or in sealed tubes
at some pressure. The conversion can be represented according
to the given scheme. The synthesized compounds and their pro-
perties are described in the table. As in the published syn-
theses of cyclopentadiene with allyl alcohol, bromo- and chloro
allyl only the boiling points were given, the authors also de
scribed the syntheses of these compounds, as well as the syn
thesis of 2,3-dichlorobicyclo-(2,2,1)-heptene-5 from trans-
-dichloroethylene and cyclopentadiene. For the purpose of a
synthesis of the different arylbicyclo-(2,2,1)-heptadienes
the conversion of cyclopentadiene with phenylchlorophenyl
bromophenyl- and tolylacetalynes was investigated, but it was
not possible to isolate the monomeric reaction products.
Only solid polymers with high molecular weights were obtained
on that occasion. There are 1 table and 13 references 10 of
which are Slavic.

ASSOCIATION: Scientific Institute for Fertilizers, Insecticides and Fungi-
Card 2/3 cides(Nauchnyy institut po udobreniyam i insektofungitsidam).

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

79-1-32/33

Organic Insecti- and Fungicides XXVIII. The Synthesis of Some Ethers of Bicyclo-(2,2,1)-Heptenyl-5-Carbinol-2).

SUBMITTED: December 18, 1956

AVAILABLE: Library of Congress

Card 3/3 1. Chemistry 2. Ethers 3. Cyclic compounds

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

AUTHORS: Kuklenko, S. S., Mel'nikov, N. N. 79-1-33/63

TITLE: Organic Insecti- and Fungicides (Iz oblasti organi- ... insektofungitsidov). XXIX. On the Interaction of Hexachlorocyclopentadiene With Some Unsaturated Compounds (XXIX. O vzaimodeystvii geksakhlortsiklopentadiyena s nekotorymi nepredel'nymi soyedineniyami).

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 1, pp. 157-161 (USSR).

ABSTRACT: In order to find new active insecticides, the authors investigated the reaction products of hexachlorocyclopentadiene with various unsaturated compounds, first of all some ethers of allyl alcohol and bicyclo-(2,2,1)-heptenyl-5-carbinol-2. Moreover the reaction of hexachlorocyclopentadiene with ethyl- and isobutylvinyl-ethers was investigated. The conversion of the allyl esters of different fatty acids and the allyl ester of dithiophosphoric acid with hexachlorocyclopentadiene takes place comparatively easily on heating of equimolecular amounts of the initial product at 100-125° C within 10-12 hours, where the corresponding derivatives are obtained with yields of 50-60%. These conversions can be represented by scheme (I).

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Organic Insecti- and Fungicides XXIX. On the Interaction 79-1 33/61
of Hexachlorocyclopentadiene with Some Unsaturated Compounds.

The synthesized compounds and their properties are given in the table. Some of these compounds are already known from publications, but they were either synthesized according to other methods or their constants were not given. The condensation of hexachlorocyclopentadiene with the ethers of bicyclo-(2,2,1)-heptenyl-5-carbinol-2 takes place considerably slowlier so that a heating of the reaction mixture at 125--130° C and not less than 15 hours are needed in order to obtain a 50% yield of the derivative. This reaction takes place according to scheme (II). Of all investigated compounds the vinyl ethers react most easily with hexachlorocyclopentadiene and they are bound to the latter already at 80-90° C, but the reaction with the bicyclic compounds even at elevated temperatures takes place considerably slowlier. As far as the insecticide activity is concerned they have a much smaller effectiveness than this is the case with aldrin and even chlorindane. There are 1 table, and 5 references, 5 of which are Slavic.

ASSOCIATION: Scientific Institute for Fertilizers and Insecticides (Nauchnyy institut po udobreniyam i insektofungitsidam).

Card 2/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

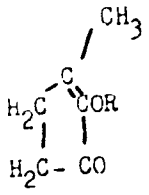
MEL'NIKOV, N. N.

AUTHORS: Mel'nikov, N. N., Shvetsova-Shilovskaya, K. D. 79-2-40/64

TITLE: From the Field of Organic Insectofungicides (Iz oblasti organicheskikh insektofungitsidov).
XXX. The Synthesis of Some Derivatives of 1-Methylcyclopentandion-2,3 (XXX. Sintez nekotorykh proizvodnykh 1-metiltsiklopentandiona-2,3).

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 474-476 (USSR).

ABSTRACT: The enolesters of the 1-methylcyclopentandion-2,3 as well as of diketone were synthetized and tested for their insectofungicidal properties. The reactions were started from the 1-methylcyclopentandion and the anhydride of clorine of the corresponding acids. The compounds of the general formula:



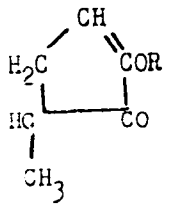
were obtained as reaction products, as well as smaller admixtures of:

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

From the Field of Organic Insectofungicides. 79-2-10/64
XXX. The Synthesis of Some Derivatives of 1-Metnylcyclopentandion-2,3.



The synthetized compounds and their specific properties as well as the working methods are given. The results of the investigations are the following: only the esters of thiophosphoric acid are effective as insecticide, whereas those of carbamic-, acetic-, butyric-, and carbonic acid were inactive.
There are 1 table, and 2 references, 1 of which is Slavic.

ASSOCIATION. Scientific Institute for Fertilizers, Insecticides and Fungicides (Nauchnyy institut po udobreniyam i insektofungitsidam).

SUBMITTED. January 16, 1957.

AVAILABLE. Library of Congress.

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MEL'NIKOV, N. N.

AUTHORS: Mel'nikov, N. N., Mandel'baum, Ya. A., Lomakina, V. I.,

TITLE: Organic Insecticides and Fungicides (Iz oblasti organicheskikh insektofungitsidov) XXXI. A New Method for the Production of Mixed Esters of Thiophosphoric Acid (XXXI. Novyy sposob polucheniya smeshannykh efirov tiofosfornoy kisloty)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 476-479 (USSR)

ABSTRACT: The reaction between aromatic diazocompounds with salts of the dialkylthiophosphoric acid was investigated and mixed ethers of thiophosphoric acid were obtained in acid-aqueous solution with a yield of up to 50%. Here schematically seen an isomer mixture of the tautomers is formed:

$$(RO)_2P(=S)ONa + ArN_2X \longrightarrow (RO)_2P(=S)-OAr + N_2 + NaX$$

$$(RO)_2P(=O)SNa + ArN_2X \longrightarrow (RO)_2P(=O)-SAr + N_2 + NaX$$

In the present paper the equilibrium of the tautomers of the dialkylthiophosphates is moved to the side of the thiolform, in

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033